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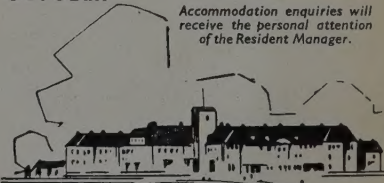
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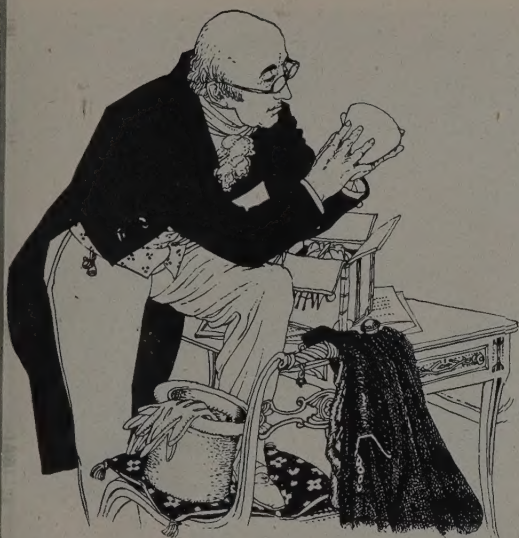
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As well as developing his method of working platinum commercially, he did a great deal of purely academic research and discovered two new metals. The first was called palladium and the second rhodium because of the rose pink colour of many of its compounds. He also investigated the production of electricity by chemical means, and carried out many experiments in optics. Among his inventions was that of the cryophorus—an instrument for showing how the temperature of water falls as it evaporates. Wollaston had unusually keen vision and steady hands, being able to write on glass with a diamond in a script so small that normal people could only read the characters through a microscope. He enjoyed a considerable reputation among his contemporaries for the accuracy of his work and his resourcefulness as a practical scientist. He died in 1828. Every piece of platinum apparatus in the laboratories of the world is a monument to the work of this British scientist.



THE GEOGRAPHICAL MAGAZINE

Editor *Michael Huxley* Executive Editor *Katherine Griffiths* Art Editor *Harald Hall*

The founders of THE GEOGRAPHICAL MAGAZINE undertook the legal obligation to assign one half of all profits distributed by way of dividend or bonus to a fund for the advancement of exploration and research, and the promotion of geographical knowledge. This fund is administered by a Board of Trustees, whose Chairman is the President of the Royal Geographical Society or his nominee.

Contents

VOL. XXII, NO. I

MAY 1949

TOMBO AND HIS PEOPLE	PAGE
II. Tombo's Schooldays	
By <i>Elsbeth Huxley</i>	I
HOT SPRINGS IN ICELAND	
Notes and Photographs by <i>Ellen Dahlberg</i>	10
THE COLOUR OF OLD ISFAHAN	
By <i>Arthur Lane</i>	
Photographs by <i>Julian Huxley, F.R.S.</i>	14
BETTERMENT—BY HAND AND BRAIN	
By <i>Professor E. G. R. Taylor</i>	25
CAGLIARI	
By <i>Kellow Chesney</i>	32
Photogravure Supplement	
By <i>W. Suschitzky</i>	Facing page 32
THE WARWICKSHIRE AVON. I	
By <i>J. Allan Cash, F.I.B.P., F.R.P.S.</i>	34

Cover : *Geisha Girls at Asakusa Festival*

J. M. Clarke

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Contents

VOL. XXII, NO. 2

JUNE 1949

THE LUX IN BENELUX	PAGE
<i>By Professor Army Nimax</i>	43
SAINT TROPEZ 'BRAVADE'	
<i>Notes and Photographs by Richard Dormer</i>	51
THE JERSEY CHARACTER	
<i>By Joan and John R. Simmons</i>	56
HARVEST OF OIL	
II. Search and Research	
<i>By Kenneth Williams</i>	64
AWARENESS OF EUROPE	
<i>By Kenneth Lindsay, M.P.</i>	73
Photogravure Supplement	<i>Facing page 74</i>
WHERE ROMANCE STILL LINGERS: THE CAMARGUE	
<i>By Maurice Moyal</i>	75

Cover: An Old Guard, St Tropez

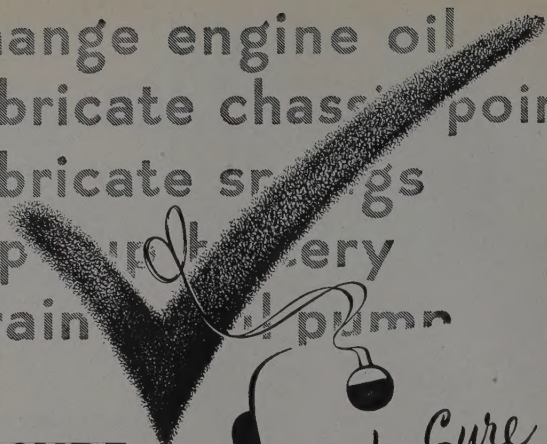
Richard Dormer from Toni Muir

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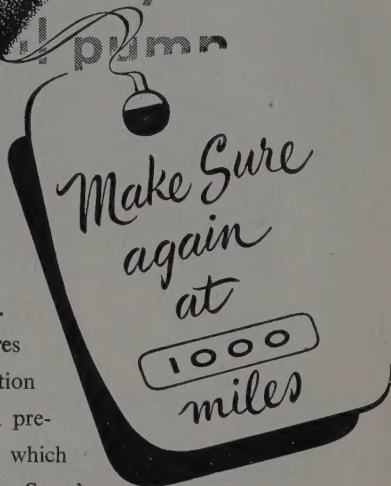
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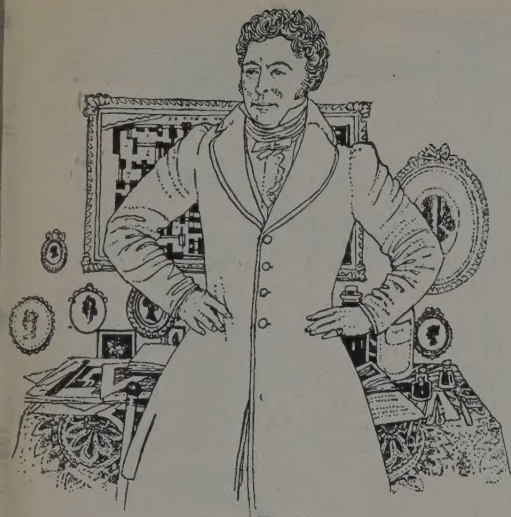
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Muspratt, though born in Ireland, was of English parentage. At the age of fourteen he was apprenticed to a wholesale druggist in Dublin, but four years later, in 1811, he gave up commerce and made his way to Spain where he fought in the Peninsular War. Returning to England, he joined the Royal Navy as a midshipman, but found conditions in his ship so intolerable that he deserted, returned to Ireland, and started a small works where he manufactured potassium ferrocyanide. Coming to Liverpool in 1822, he set up a plant to produce sulphuric acid, extending it the following year to make sodium carbonate. In 1828, in partnership with Josias Gamble, he built an alkali works at St. Helens in Lancashire. The hydrochloric acid fumes from his works were allowed to escape into the air and did much damage to neighbouring farmers' crops. In 1836 a method of absorbing these objectionable gases was invented by another Englishman, William Gossage. Instead of being allowed to go to waste, the fumes were recovered and proved to be a valuable by-product. Hydrochloric acid manufacture had now been added to that of sulphuric acid and sodium carbonate by James Muspratt and his associates. The foundations of the British heavy chemical industry were complete.



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Contents

VOL. XXII, NO. 3 JULY 1949

THE NORTH-WEST FRONTIER	PAGE
Pakistan's Inherited Problem	
By Lt.-Colonel C. W. F. Busk	85
THE WOOD-CARVER OF KÄLLBERGET	
Notes and Photographs by J. Allan Cash, F.I.B.P., F.R.P.S.	93
A COMPARISON OF CASTLES. IV	96
THE PRAYER BOOK AMONG THE NATIONS	
By The Reverend Cyril W. J. Bowles	101
SOME PROBLEMS IN ANIMAL GEOGRAPHY	
By G. S. Cansdale	108
Photogravure Supplement	
By Jürg Klages	Facing page 108
TRAVEL ON THE TRUCIAL COAST	
By Wilfred Thesiger, D.S.O.	110
THE WARWICKSHIRE AVON. II	
By J. Allan Cash, F.I.B.P., F.R.P.S.	119

Cover: *The Wood-carver of Källberget*
J. Allan Cash

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Contents

VOL. XXII, NO. 4 AUGUST 1949
PAGE

HOW RADIO HELPS NAVIGATORS
By Frank George 125

CONTRASTS IN BULGARIA
By J. Allan Cash, F.I.B.P., F.R.P.S. . . . 132

THE MEN BEHIND MODERN
 GEOGRAPHY
I. Sir Joseph Banks
By G. R. Crone 142

BEANSTALK LAND ABOVE THE
 CLOUDS
Eritrea, as the Traveller Sees It
By E. F. Wise 145

THE CAIRNGORMS AS A
 NATIONAL PARK
By V. A. Firsoff 155

Photogravure Supplement Facing page 156

A VISIT TO THE SOUTHERNMOST
 FARMER IN THE WORLD
By Dr Gisèle Freund 157

Cover: Bulgarian Women
J. Allan Cash

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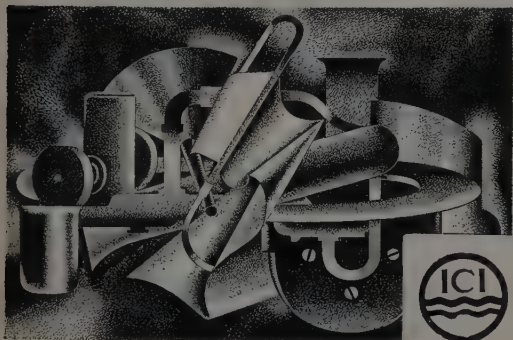
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Contents

VOL. XXII, NO. 5.	SEPTEMBER 1949
THE WEST INDIES SINCE THE MOYNE REPORT	PAGE
<i>By Sir Harry Luke, K.C.M.G., D. Litt.</i>	165
DANCERS AT PISAC	
<i>By Hamo Sassoon</i>	177
ANIMALS IN ART	
IX. Mediaeval Bestiaries	
<i>By J. P. Harthan</i>	182
OILS OF SHIWA	
<i>Notes and Photographs by Nigel Watt</i>	191
THE MOSLEMS OF KASHMIR	
<i>By Dr Cecil Vosper</i>	196
Photogravure Supplement	
<i>By Henri Cartier-Bresson</i>	Facing page 196
THE VENGEANCE OF TANE	
<i>By C. R. Stanton</i>	198
THE WORLD IN BOOKS	
<i>By Ivy Davison</i>	xi

Cover: *Navajo blankets and jewellery*
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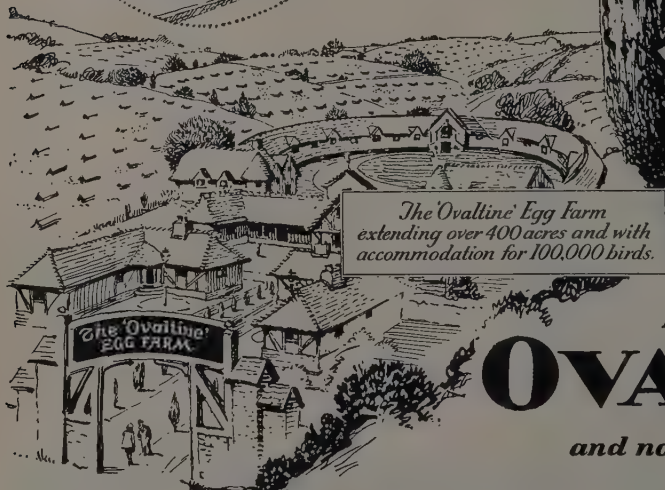
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Contents

VOL. XXII, NO. 6 OCTOBER 1949

TROLLOPE AS A TRAVEL-WRITER PAGE
By Alan Ross 209

MONGOLIA: FILTER OR FLOOD-GATE?
By Owen Lattimore 212

LAMA TWILIGHT
By Ian Morrison. 222

THE GENTOO PENGUIN
By Dr C. A. Gibson-Hill 233

LA STORIA GRECA
 Temples and Marionettes in Sicily
By Fosco Maraini 239

Photogravure Supplement Facing page 240

THE LISBON CHARACTER
By Marcus Cheke 242

THE TAVERNAS OF SYRA
By Christopher Kininmonth 251

THE WORLD IN BOOKS
By Ivy Davison x

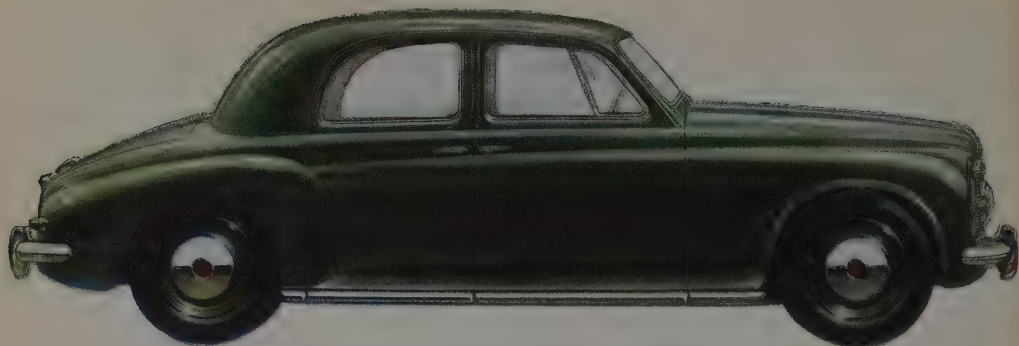
Cover: Trumpet-blowers at a Mongol lamasery
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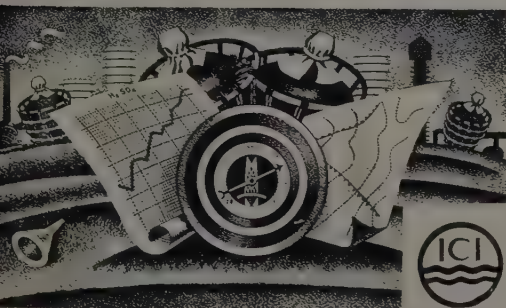
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Contents

VOL. XXII, NO. 7	NOVEMBER 1949
RECLAIMING THE ZUIDERZEE:	PAGE
THE SOCIAL CONSEQUENCES	
By D. J. de Haan	253
A COMPARISON OF CASTLES. V	263
EXPLORATION IN GAMBIA	
By Francis Huxley	270
DANCERS OF THE GOLDEN AGE	
By Dr Verrier Elwin	278
Photogravure Supplement	Facing page 278
AN INTERNATIONAL EXPEDITION	
TO ANTARCTICA	
By L. P. Kirwan	280
THE MEN BEHIND MODERN	
GEOGRAPHY	
II. Alexander von Humboldt	
By G. R. Crone	289
HEBRIDEAN SCENES	
Notes and Photographs by J. Allan Cash,	
F.I.B.P., F.R.P.S.	292
THE WORLD IN BOOKS	
By Ivy Davison	xiii

Cover: A group of Malayan girls

Ian Morrison, from Camera Press

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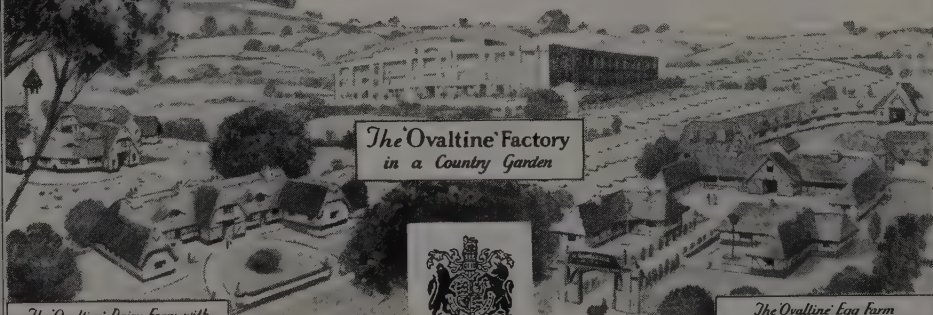
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Contents

VOLUME XXII, NO. 8

DECEMBER 1949

PAGE

POETRY OF PLACE. By FIELD MARSHAL EARL WAVELL, G.C.B., G.C.S.I. 295

PIDGIN ENGLISH OF THE SOUTH SEAS. By A. J. MARSHALL 298

RURAL ENGLAND IN THE MAKING: as shown in Sporting Pictures.
By GUY PAGET 306

ISLAM IN MOROCCO. By ROM LANDAU 320

Photogravure Supplement, THE NATIVITY. Notes by J. P. HARTHAN *Facing page* 334

THE RHINE: EUROPE'S RIVER. By C. V. WEDGWOOD 335

THE WORLD IN BOOKS. By IVY DAVISON xv

*Cover: The Right and the Wrong Sort, or, a good and a bad style of going across country.
H. Alken, 1859; engraved by J. Harris.*

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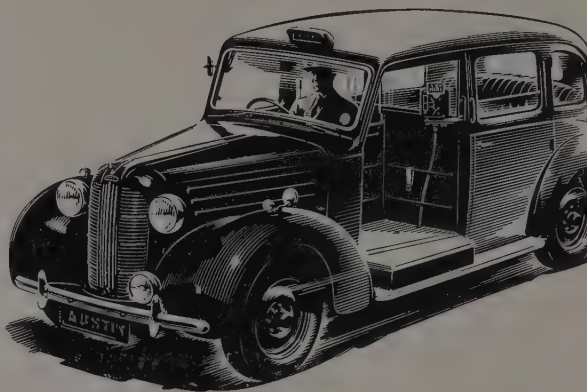
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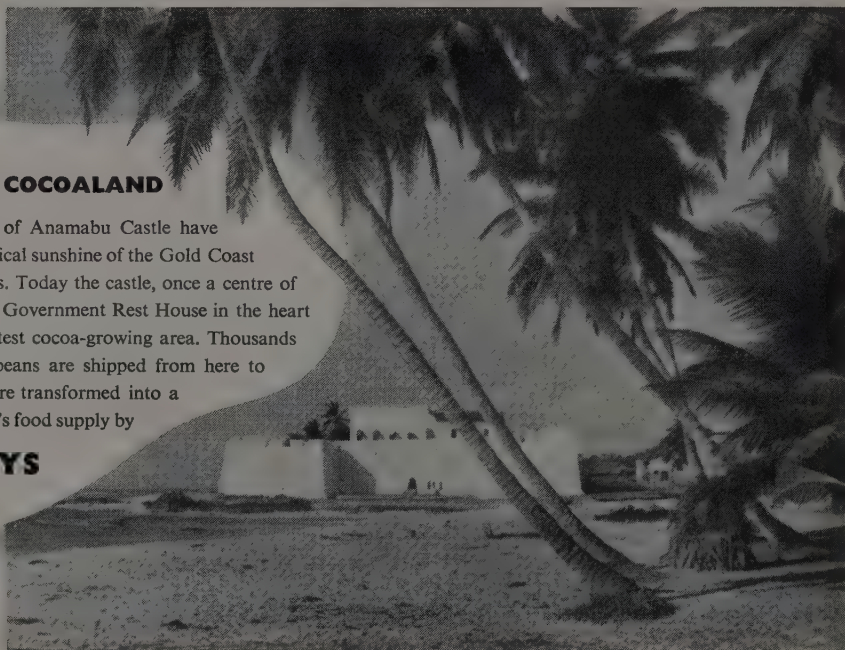
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Contents

VOL. XXII, NO. 9 JANUARY 1950

THE OASIS OF SIWA	PAGE
By W. B. Kennedy Shaw	343
ANGLES ON SKOMER	
By Geoffrey Cory-Wright	349
ENGLISH CHURCHYARD SCULPTURE	
A neglected folk-art	
By Frederick Burgess, A.R.C.A.	359
SILKEN SEQUENCE: A STORY OF JAPAN	
Photogravure Supplement	
By Horace Bristol Facing page	366
SCOUTING SPANS THE WORLD	
By Colonel J. S. Wilson	367
TEACH ME HOW TO DIG	
By Sylvia Matheson	378
THE WORLD IN BOOKS	
By Ivy Davison	x

Cover: *A Northern Rhodesian who
knows the answer*

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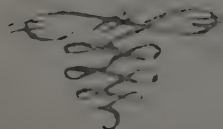


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Contents

VOL. XXII, NO. 10

FEBRUARY 1950

PAGE

THE SUCCESS OF THE SMALL FARM IN ULSTER

By H. Montgomery Hyde, M.A., D.Lit. . . 387

IRISH LINEN

Notes by G. A. Roberts . . . 395

IN SEARCH OF EARLY CHRISTIAN PAINTINGS IN ETHIOPIA

By Beatrice Playne . . . 400

THE WORLD-WIDE GROWTH OF CITIES

By Professor E. G. R. Taylor . . . 412

MAN AND THE LANDSCAPE

Photogravure Supplement . Facing page 418

TRIBAL LIFE IN MIDDLE INDIA

By Dr Verrier Elwin . . . 419

THE WORLD IN BOOKS

By Ivy Davison . . . v

Cover: An Ethiopian female saint on horseback

Beatrice Playne

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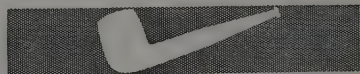
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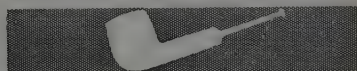
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Contents

VOL. XXII, NO. II

MARCH 1950

GIRAFFES AT HOME

PAGE

By R. H. Ferry 431

VILLAGE LIFE IN OLD CASTILE

By Churton Fairman 437

BRAZILIAN CYCLE

By Kenneth G. Grubb, C.M.G. . . . 446

THE MEN BEHIND MODERN GEOGRAPHY III. Karl Ritter

By G. R. Crone 457

MILLIONS FOR MEAT

Production Prospects in Australia

By R. F. Cornish 460

OUTBACK IN NORTHERN AUSTRALIA

Photogravure Supplement

By Douglas Glass . . . Facing page 462

DETECTIVE STORY FROM AN OLD MAP

By C. A. Burland, F.R.A.I. . . . 466

THE WORLD IN BOOKS

By Ivy Davison xiv

SHALL I GO TO . . . ITALY?

By J. M. Scott xviii

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xi

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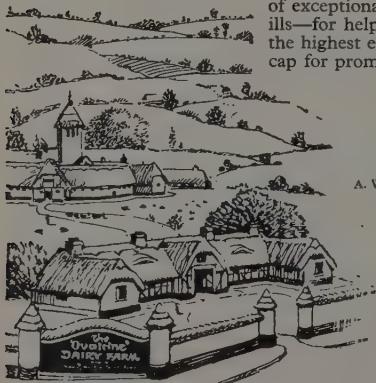
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Contents

VOL. XXII, NO. 12	APRIL 1950
ROMAN CATHOLICS IN THE MODERN WORLD	PAGE
By Christopher Dawson	471
HOLLAND’S HISTORY IN GLASS	
The Windows of St John’s Church, Gouda	
By C. V. Wedgwood	477
A PICTURE OF PALMYRA	
By Dr Julian Huxley, F.R.S.	486
OMAI: ENGLAND’S FIRST POLYNESIAN VISITOR	
By Sir Harry Luke, K.C.M.G., D.Litt.	497
ANATOLIAN LANDSCAPE	
By Ann Bridge	501
Photogravure Supplement	Facing page 502
BRITISH FOOD AND BRITISH HOMES	
By Professor L. Dudley Stamp, C.B.E., D.Sc.	504
THE WORLD IN BOOKS	
By Ivy Davison	x
SHALL I GO TO . . . TYROL?	
By J. M. Scott	xvi

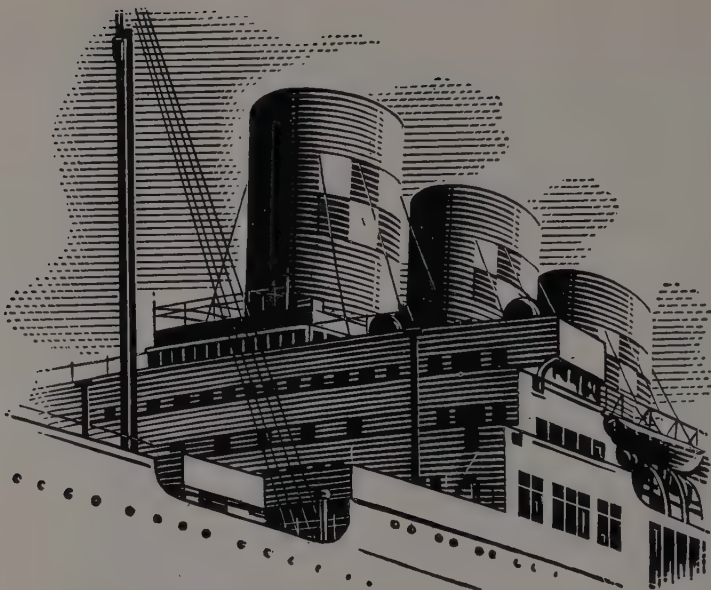
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Tombo and His People

II. Tombo's Schooldays

by ELSPETH HUXLEY

In our last issue A Masai Boyhood dealt with the background and upbringing of a young Kenya Masai who, after four years at Makerere College in Uganda, has returned as a school-teacher to his tribe. The following article describes his encounters with the Government-imposed educational system and some of his views as a leader, and a link between old and new, on the Masai's future

TOMBO's grandmother was sold for food by her relatives at a time of famine; and probably this fact, more than any other, started the train of events that set Tombo's feet on the path to Makerere College, and to a teacher's career. For Tombo's father, then a boy, was brought up among the Kikuyu, his mother's purchasers, and in due course married a Kikuyu wife. And whereas the Masai are a proud, self-sufficient, cattle-loving tribe who, like many nomads, resist 'progress' and spurn 'education', the Kikuyu, a race of cultivators, seek and desire these blessings as passionately as the Masai reject them. When Tombo's father returned to his own people he took with him a hankering after literacy and an acquaintance with the Christian faith. Unlike most of his fellow-tribesmen, he resolved to send his children to school.

This was a sacrifice, for young Tombo had proved himself a born cattle-herd, and without him there was no one competent to look after the precious beasts. The cattle were sent to an uncle, the sacrifice made.

Masai schooling has always presented a problem to the authorities. How can schools be organized among nomadic peoples? Only by setting up boarding schools, and only, as it turned out, by using compulsion to get the boys to school. The first is expensive and the second very difficult. It is not surprising that progress was slow, especially as other tribes, like the Kikuyu, were crying out for schools. To secure teachers, moreover, was a hard task, for the Masai deeply resented having to learn from men of tribes they heartily despised, and no Masai teachers then existed. In spite of all this, the Africa Inland Mission set up a few outposts in Masailand as early as 1914, and between the two wars the Kenya Government started schools, at first rough and makeshift, at the main centres of administration.

No one could be surprised if these schools,

filled by rebellious 'conscripts' and staffed by half-trained young men from tribes who traditionally feared and hated the Masai, were, to start with, uncomfortable places. Tombo's early impressions were bleak—and curiously similar, *mutatis mutandis*, to those of many a small English boy sent to one of the poorer preparatory schools of perhaps a generation ago.

"We were ruled by the threat of thrashing", Tombo recalls. "We hated all our teachers except one, the only teacher who deserved the name. He was a Mkamba called Mate wa Nzioka; he did punish us like the others but he did it in the spirit of a father . . . The rest of the teachers were a poor lot, just out to earn money. Some said this quite frankly. I remember one who took great pleasure in saying: 'I don't care whether you understand anything or not, at the end of the month I go to the office and collect my salary, and when I have enough I go back to Ukamba.' He sneered at us and we hated him for it . . . When things became intolerable we organized a campaign. Some of the teachers used to visit the town every evening after classes and come back at night. We organized ourselves in groups and waylaid an ambush for them. We broke their lamps and then bombarded them with stones, chasing them in silence to their houses."

Bullying of small boys by big ones was common, it appears, in African as in English schools, and took much the same forms—although it would perhaps be unusual at an English school to see the victim turning on his oppressor with a spear, as happened once at the Government School at Narok, which was Tombo's first academy.

"Sometimes I think we fought for the sheer joy of it", he recalls. "Duels were quite common. If two of the youngsters quarrelled, they were asked by the bigger boys to bring sticks and then everybody came round to form a circle to watch the fight. The

boy who ran away at such a fight was very much despised by the whole school. But if none of the boys ran away, they were stopped after a few minutes and then in traditional Masai fashion asked to shake hands and be friends. When the big boys fought, it was not so pleasant. They used clubs, and, what was more dangerous, clan feuds developed."

Perhaps because he was one of the very few voluntary pupils, Tombo found lessons a pleasure and not a grind.

"Right from the beginning, I was very keen on learning. So I enjoyed almost everything. Most of my contemporaries loathed physical training. I enjoyed it. I looked forward to the day when I would become a teacher and learn to drill boys. My desire to become a teacher was strengthened when I saw a Mkamba teacher jeering at us contemptuously, and I made up my mind to be a teacher and do something for our Masai boys. . . .

"Conditions at the school—I mean living conditions—were really bad. We had only one small sheet to wear and one blanket at night. We slept on hard boards, or sometimes on the cold cement floor. The big bullies used to strangle the youngsters in the evenings until the latter were almost about to lose consciousness, and then their blankets were taken away from them. We—the younger fellows—soon discovered tricks of getting away before the bullies could get at us. As there were no lamps, we used to

pretend to lie on our beds and then slip away to some obscure corner under someone else's bed to avoid discovery. We also made friends with bigger boys who protected us."

At meal-times, too, the bigger boys abused the smaller by seizing their bits of meat out of the stew, until, Tombo writes, "some warriors entered the school. Before this, only uncircumcised boys came into the school. These warriors at once took the lead. They became self-appointed prefects. There were three of them at first. They at once put everything in order. They made us form queues before meals, and made us have our meals in the dining-shed. We entered a peaceful period of quiet orderliness which we had never known before."

Two years later, Tombo himself became a prefect—"the youngest of them all"; and, later on, the head of a dormitory which won a shield and "with it the yearly feast of an ox slaughtered by the best House". By the time he left Narok in 1940, he had seen great changes.

"I went there when boys were clothed in little sheets, sleeping on hard boards with a single blanket. I left when jumpers and shorts were the normal order of things; when each boy had at least two woollen blankets, and although boards are still used, there is no more strangling of small boys at night. I went there when the whole school was often in a mess, extremely dirty and untidy; I left there feeling sure that at least I had learnt to be a bit clean . . . I went there when hardly anybody knew what religion was; I left when a majority could claim to be Christians, and I believe many of them were. I went there when all the teachers were from outside, most of them simply to earn money for keeping wretched boys in a modified prison. I left when most of the teachers were Masai, most of them kindly men who were there to teach . . . and who besides teaching had a real sense of propagating the Gospel of Jesus Christ. These men have built up a tradition in that school that is unique and peculiarly Masai."

From this Junior Secondary school at Narok, the most successful pupils can pass on to the Alliance High School near Nairobi, a full secondary school taking boys, and a few girls, of all tribes, and preparing them for Cambridge School Certificate, the goal of every ambitious schoolboy. Very few Masai boys had hitherto climbed so far up the educational ladder, but in 1941 Tombo and his friend John Tameno entered the Alliance.

Here, again, Tombo encountered bullying, which culminated in an occasion when



A. J. Thornton



courtesy of Uganda Public Relations

Makerere College (a future university) in Kampala, Uganda's commercial capital, draws students from Uganda, Kenya, Tanganyika, Zanzibar, Northern Rhodesia and Nyasaland. (Right) In the doorway of the main building (above), erected by the joint efforts of the first four territories named, are standing representatives from each of the first five. There are now less than 200 students, including a dozen women, but plans for expansion, involving substantial help from Britain, have been approved; these aim at an enrolment of 1200 in 1965. After a preliminary year the students specialize in medicine, veterinary science, agriculture or education, their fees and expenses being paid by their governments. Every successful graduate is at present assured of a job, the demand for teachers, especially, greatly exceeding the supply



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J. R. Crabb



Throughout East Africa the Christian Missions were the pioneers of education. With financial help from governments they still control most primary schools, although an increasing number are being started directly by Education Departments and by local African authorities. Protestant and Roman Catholic chapels flank the main buildings at Makerere; but Christianity is not the only religion provided for by the College: a Mosque (above) has been built for the minority of Muslim students, many of whom come from the coast. Its formal opening in May 1948 was attended by His Excellency the Governor of Uganda, Sir John Hall, seen (left) with Prince Abdulla, Heir Apparent of His Highness the Sultan of Zanzibar, who opened the Mosque, and Shariff Omar Abdulla, a former student of Makerere

one of the older boys demanded that he be saluted as 'Hitler and Mussolini combined together'. "At once", says Tombo, "I regretted that I had not brought my club or sword with me . . . I called the fellow the names he wanted and marched off straight-away. I was really annoyed. I went straight to my dormitory and lay on my bed thinking furiously. Presently there came two boys from among the bullies. 'What is your name, Form One?' the first one asked. 'Why don't you speak, Form One?' the other urged. The term 'Form One' was a very contemptuous one and I hated it. 'Now I am going to teach these a lesson', I said to myself. I lay still until they drew near. Then I suddenly stood up intending to give them a warm welcome. I had no time for this, for by the time I was on my feet they were dashing through the door. I was very disappointed. That was the end of boys of my age trying to bully me."

In his second year Tombo, always a leader, was made a prefect of his dormitory. "I liked my dormitory" right from the beginning. I had a good set of people, most of whom have remained among my best friends ever since. I never had to rule the others by threats in my dormitory, although it was not all plain sailing. At the end of the year we took the cleanliness cup. We did more, in fact. We established a record of cleanliness that remained long after the original group left. I am still thrilled to hear that Dormitory III in Livingstone House at the Alliance High School has taken the cleanliness cup for the year. . . .

"In 1944, I was made School Captain. My predecessor was a very able man . . . He set such a high standard that I wondered whether I should be able to maintain it at all. I did my best. What was more, I managed to understand a little about the Headmaster, Mr Francis. By this time I had come to regard him as a friend. I trusted him and liked him. Even when he came and told me that I had been 'a little silly ass' because I did some stupid thing, I patiently listened to what I should have done. I believe he trusted me too. One thing was uppermost in my mind since I came to understand him at all; I realized that I was under not only a great man but also a Christian. His sincerity made me feel very humble, just as his amazing energy inspired me to be as active in everything as much as I could."

His four years at the Alliance were happy ones. "I liked the general life of the school. I believe I enjoyed doing everything. I believe I was a member of the crew rather

than a passenger. I liked most of the games we played, but I liked physical training best . . . One of the things I always remember with great pleasure is the occasion when I drilled the Livingstone House team and we took the cup in December 1944.

"I liked my studies extremely well. I did all I could to keep up, and I managed to keep within the first four during my whole time there. Everything was an adventure to me. I liked reading new books and exploring new ground. Some subjects were very difficult for me, notably science and mathematics, but somehow I managed to keep on."

Because of the many difficulties and delays, schooling in Africa often takes place later in life than it does in England. Tombo was twenty-two years old before he left the Alliance, and had begun to think and reason for himself.

"It was when I was still there that I came to realize my responsibility to my people the Masai . . . As I began to gain a wider outlook on things, I increasingly realized the importance of girls' and women's education. I noticed that in the neighbourhood of the school—in Kikuyu—practically all the girls went to school just like boys. I noticed, too, that education was mainly in the hands of Missions instead of Government as was the case in Masai. I started asking questions. The more I learnt about the problem of education the more I realized its importance and magnitude. My resolution to become a teacher was firmly strengthened.

"I particularly liked the religious atmosphere in the school. It was the basis of everything. Sunday was a big day for us; most of us looked forward to the main morning service. The kind of religious knowledge we received suited me very well. I could fit myself into it, having come from a very puritanical society where even parting one's hair or smoking was looked on with awful foreboding. But what really affected my whole outlook on life very deeply was the attitude and character of Mr Francis. He used to invite some of us boys to his house on Sunday evenings where we talked informally, and so came to learn far more about the general problems of life than we could ever learn in Chapel or in the classroom. I believe Mr Francis taught us how to think and reason out things, at least to our own stage. This was something apart from the way he taught us to lead others. He expected a high standard from his prefects, but he did a great deal himself in guiding and encouraging them. If I did not learn much it was my own fault and not his."



own Copyright

East Africa's future doctors and veterinarians working in a Makerere laboratory. Students generally prefer science to the humanities, regarding it as the basis of the coveted Western technique

In 1945 Tombo passed into Makerere, the college serving all East Africa for higher education, and the Mecca of almost every intellectually ambitious young man. Here for two years he took a general course, then specialized for one year in geography and for a further year in education. Here, too, the process of learning to think for himself and to ask questions continued: often, and inevitably, with painful and confusing results.

"I do not think that without meeting such people as these", Tombo writes, after enumerating some of the tutors at Makerere who influenced his thinking, "I could ever have thought rationally and calmly about the all-important problem of race relations. Other people, some white and some black, coloured my mind with regard to this racial problem, but these friends gave me another picture."

The picture was sometimes dark. "There was an administrator at Narok who gave me a shock I will never forget in my life. I went home on vacation once, and on reaching Narok I saw a crowd of Masai women and

young girls sitting near the District Commissioner's office. On inquiry I found they had been detained there as a punishment to the warriors who had been notorious at stealing cattle. The D.C. wanted to bring them to their senses, so he took away their mothers and the girls from their *manyatta*.

"I was shocked. I greatly wondered whether the man had any sense of honour or chivalry . . . That night I found myself fidgeting in bed unable to sleep. I thought of our Local Native Council members who passively watched the District Commissioner degrading them without putting up any resistance and I was vexed to the bottom of my heart. Next morning I made up my mind to do something. I took a big Information Office propaganda sheet. I wrote on the blank side PAX BRITANNICA? OR BRITISH CHIVALRY? I took this and tried to persuade the women and girls to give it to the D.C. when he came to see them that morning. They were too scared to do any such thing . . .



J. R. Crab

The arts are encouraged at Makerere: on its lawns a scene from Julius Caesar is rehearsed by students whose togas resemble the kanzu, traditional dress of East African chiefs and domestic servants

"I left the girls and went back to the town. I got a piece of paper and pencil and wrote the following letter to the District Commissioner:

Sir,

I am wondering whether it beseems me to write to you about such a large problem in Masai today, but I cannot withhold any longer.

I could never believe that we could be degraded so low. I do not believe that detaining girls in town will stop 'stealing' in Masai. Couldn't the whole problem be faced right away? What other knowledge have the young men and women than the old, which functions no more?

I think that what is happening in Masai today is precisely what would be expected of active and industrious people who know no other outlets for their energy than the old archaic ones.

Yet I think that although we have been humiliated so much, the shame can be turned into honour. If His Majesty's Government is prepared to force our girls to come and stay

in front of the office for days in order to make the warriors surrender, surely it can also make the same girls go to school and learn to urge their friends to higher ideals than cattle raiding.

TOMBO OLE MBAEI

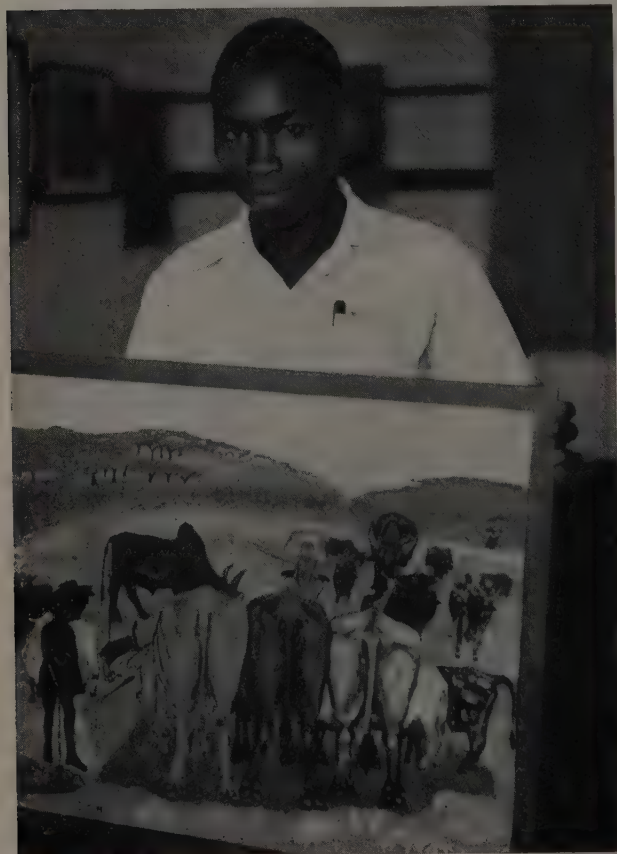
The girls were released that morning—whether by a coincidence or whether in part because of his protests, Tombo never discovered. The incident moved him deeply. "White men should realize", he commented, "that although we are ignorant and have no civilization to boast of, we are men. We value our own culture far more than the most grandiose and refined of Western cultures. It is our own creation, and we love it and mean to keep it. It may be archaic—it largely is, but it is not impossible to reform it while still retaining the original stamp. We will not slavishly imitate the Western world if it despises our culture. . . .

"The main deficiency is in the kind of 'education' that is given to Masai youth at present. It is so bare, so secular, so uninspired, that it tends to produce automatons:

men who cannot think seriously for themselves about life, or the problems facing the country today. Most of our schools are Government-run institutions, plagued with the common stereotyped curricula for all Government schools in the Colony, whether in the densely populated, agricultural, permanently settled Central Province, or in the nomadic, pastoral Masai Province. Hardly anything is done about girls' education, so six out of twelve schoolboys go back home and live exactly like their relations who have never been to school, in order to be able to marry . . . Oh! I could go on endlessly. These are my problems. They are constantly in my mind."

While at Makerere, Tombo revealed an unexpected talent for painting. He had never attempted this form of self-expression before, but in the stimulating atmosphere of the

Tombo ole Mbaei, aged twenty-six, with one of his water colours of the cattle he herded and grew to love as a boy, and to which he returned in the Makerere vacations



School of Art, where an inspired effort is being made to develop latent artistic abilities among peoples almost wholly without artistic tradition, he caught the infection, and spent as much time as he could spare experimenting with water-colours. The scenes he chose were scenes from memory of the wide, brown, sweeping plains of his own land, the great open skies, the pale flat-topped thorn-trees, and of the cattle he still loved crowding round the watering-places. For these scenes, as he says, were often in his mind. The excitement of his studies never drove the problems and the hopes of his own people out of his head—as so often happens among those educated far beyond the general level of their family and friends.

Cattle, water, grazing, drought—these are still the big problems of Masai. Tombo painted them and pondered them at his distant college in the green, moist, banana-growing country of Buganda. Certain pictures stayed vividly in his mind's eye "I have watched with a sick heart old women trudging at least seven miles to draw drinking water up on the south-eastern flanks of the Mau. I have walked along the cattle roads during the dry season and have seen them littered with dead and dying animals—dead from thirst or famine. I once tried to calm an old woman who was cursing a cow dreadfully, in the name of God, and she fiercely retorted that God did not exist, otherwise He would not let people live in such misery. I was struck dumb. I watched the streams of cattle all waiting to drink at one little stream which was almost drying up; the temperature must have been about 90° in the shade; the ground was too hot to tread on without shoes or sandals, the skies were cruelly brilliant blue, not a tiny cloud to be seen anywhere. I realized what the old woman felt.

"At such times when I remember the District Commissioner with his domestic water supply system well fitted, with his thriving garden full of beautiful flowers and vegetables, all well watered, with a stream, or rather a little canal, running with smooth ripples behind his house, with his regular meals and more pertinently regular baths, I do not wonder he pays no heed to our misery. With malice towards none, I wish



Cattle dying owing to drought, the Masai tribe's gravest problem. This picture by Tombo was included in a recent exhibition at the Imperial Institute, London, of work by Makerere art students

By courtesy of the Imperial Institute

I could blow everything to bits and put him in the situation of the cursing woman for a week. He would learn a lesson and probably do something. These things are very painful to me. I know them, I have experienced them, they have made me what I am. My life will be spent righting them—God being my helper.

"I often find myself living in several worlds, particularly in the realm of thought and imagination. I come here to College and plunge deeply into my studies, touching even some of the theories and hypotheses of great minds that have shaped human achievements. I am introduced to great literature—to great writers like Shakespeare, Jane Austen, Dante, Chesterton and a host of others. I find myself participating in the life of the College, carrying my little share of responsibility and being introduced to important and influential local personalities. In short I am lifted out of my little cell, my little

self, into a wider and far profounder world than I ever dreamed of. . . .

"Then I go home to visit my cousins and uncles. I see the painful sight of a whole village ridden with innumerable flies. Flies in women's and children's mouths, eyes, and all over the body, with the consequent prevalence of trachoma, culminating in the horror-striking spectacle of blind children. I notice how people suffer from abdominal ailments, and others that could be prevented by more sanitary conditions . . . All these things and a host of others tell me very plainly that I am not to expect an easy life. I shall have to work. But far more important, and also far, far more difficult, I shall have to try and get ideas across to my fellow countrymen so that we all cooperate and heave with a will. I pray God that He may guide me, strengthen me and keep me in His way, then I shall never stumble. What He began in me, He will finish."



Hot Springs in Iceland

Notes and Photographs by ELLEN DAHLBERG

Iceland, with its northernmost tip crossing the Arctic Circle and perpetual icefields covering an eighth of its area, is regarded by many 'southerners' as a permanently frost-bound island. Such, of course, is not the case, for the warm current of the Gulf Stream usually encircles it; and since earliest times vast subterranean furnaces have influenced conditions, finding outlet through over one hundred volcanoes (surrounded by lavafields extending over 4650 square miles), as well as in sulphur and carbonic acid springs, with surface temperatures of from 50° F. to 212° F., boiling lakes, and geysers, one of which is seen above spouting steam, fumes, hot water and mud



During the last few decades plans have been carried out for utilizing the hot springs commercially. The major undertaking of this kind, interrupted by the war but completed in 1945, is the heating of Reykjavik, Iceland's capital. Some of the hot water is led in from springs just outside the town, but the main supply comes from about ten miles away; here there are forty drillings down to an average depth of 400 yards which produce 1400 gallons of water per second at an average temperature of 189° F. This flows under pressure to large cisterns nearby. (Left) The interior of a pumping station, whence the water is forced along insulated pipes (partitioned longitudinally inside for cleaning purposes) to huge storage tanks (above) on a hill overlooking Reykjavik. The water is carried down by gravity to heat the town's buildings



(Above) A strikingly modern appearance is presented by the Icelandic High School of Laugarvatn. The hot water used for bathing and for heating the school, as well as its greenhouses, is now piped in from a nearby spring. The civic hot-water system at Reykjavik is put to many uses, an important one being the provision of (left) a communal bath-house and swimming pool; this proves a great attraction to the tourists now arriving in Iceland in progressively large numbers

(Right) Gone are the old days when the housewife carried her weekly wash to the closest hot spring. Now the scalding water is piped direct to her house and, simplifying matters even further, a modern electric washing-machine is at her disposal. (Below) The possibility of heating green-houses with hot-spring water has resulted in a much richer and more varied diet for the Icelanders. Fresh fruit and vegetables can be purchased even in wintertime, when bananas and grapes may be seen growing in glass-houses encircled by hills coated with ice and snow



The Colour of Old Isfahan

by ARTHUR LANE Photographs by JULIAN HUXLEY, F.R.S.

About the year 1600 a brilliant flowering-time occurred in several countries; Mr Lane (author of Early Islamic Pottery: Faber) and Dr Huxley together reveal the colour in which that age arrayed itself at Isfahan under Shah Abbas I and the connection between his Persia and Elizabeth's England

PERSIA as it appears on the map is almost entirely brown, a vast table-land girt round with mountain barriers and in some regions suspiciously bare of place-names. Here are deserts, where the thin blue rivers descending from the mountains spread out to die on arid sand and rock. The Zendeh Rud, which gathers in the western Zagros range and flows south-east, is a river of this kind. But even in parching summer there is water between its banks as it passes Isfahan, a place which from time immemorial, under a variety of names, has been an oasis where roads met and government of some kind was carried on. At the end of the 16th century Isfahan became the capital of the native Persian monarch with whose name it will always be associated.

Shah Abbas I reigned from 1587 to 1629. His family, the Safavis, were of noble Persian descent and took their name from an illustrious ancestor, Sheikh Safi-ed-Din. They first appeared on the stage of world history after 1499, when the future Shah Ismail gathered a following in Gilan province and opened hostilities against the enemies of a then divided Persia. From the east the country had been overrun by the Turcoman Uzbeks; on the west the Ottoman Turks were building a mighty empire. Selim the Grim, conqueror of Syria and Egypt (1512-20) and Suleiman the Magnificent (1520-66) who conquered Hungary and besieged Vienna, were names that inspired terror in Europe during the 16th century. But in Persia the Safavi Shahs fought with spirit and good generalship for the north-western gate of Persia round Tabriz, and Shah Abbas I, succeeding to the throne at a desperate stage, well earned his title "The Great". For though the Uzbek incursions reached their greatest extent in the first ten years of his reign, in 1598 he gained a great victory near Herat which settled the Uzbek problem for many years to come. From Herat he marched back to Kazvin in North Persia, the capital since the occupation of Tabriz by the Ottoman Turks. Here, in his hour of triumph, he was met and congratulated by one of the

most fantastic characters of our own Elizabethan Age.

Sir Anthony Sherley (1565-1636) had fought with distinction under Sir Philip Sidney at Zutphen. His expedition to Persia, apparently prompted by the Earl of Essex, had as its purpose a project long meditated in both East and West; an alliance between Persia and the European powers against their common enemy the Turk. Such was Sherley's personal attraction that within a few hours he and the Shah became firm friends. Together they journeyed southwards, early in 1599, to Isfahan, which Abbas had already decided upon as the new and more central capital of his realm. At the end of April 1599 Anthony Sherley left for Europe via Russia as the accredited Ambassador of Shah Abbas. In Russia he was ill received by Boris Godunov, but eventually he made his way via Archangel and Emden to the court of the Emperor Rudolph II at Prague (1600) and to the Papal court at Rome (1601). But in Rome the Emperor's letter replying to Shah Abbas was stolen from him by Turkish agents, and Anthony's further career of intrigue and adventure in Europe and North Africa, chronicled in the fascinating book of Sir Denison Ross (*Sir Anthony Sherley and his Persian Adventure*), had little direct bearing on Persian affairs.

Anthony had been accompanied on his expedition to Persia in 1598 by his less brilliant but far more reliable brother, Sir Robert Sherley. Robert twice visited Europe as Shah Abbas' ambassador (1609-12, 1623-7), but his best years were spent in Persia, where Abbas appointed him Master-General of the Persian army. A member of Robert Sherley's party was a skilled gun-founder, and the Persian army was thoroughly reorganized. In 1602 Abbas at last felt strong enough to challenge the Turks; Tabriz fell to him in 1603, and the success of the campaigns that lasted till 1623 has been summed up by Purchas (a friend of Robert Sherley) in a notable passage:—"The mighty Ottoman, terror of the Christian World, quaketh of a Sherley-fever, and gives hopes of approach-

Shah Abbas the Great took special delight in the presence of Europeans at his court, and this not only because of their usefulness in bringing into his service such European techniques as artillery, clock-making, and large-scale figure-painting. The king was bound to govern his oriental subjects as a despot, by fear; and the severity of court etiquette is brought home to us in the bracing prose of Sir Thomas Herbert, who was present at the reception of the English ambassador Sir Dodmore Cotton, in 1627:—"Round about the room were also seated several tacite Mirzaes, Chawns, Sultans, and Beglerbegs; who like so many inanimate Statuaes were placed cross-legg'd, joyning their bums to the ground, their backs to the wall, and

THE NEAR EAST
about A.D. 1600

Boundary of Ottoman Empire - - - -
Miles
0 200 400 600 800

Regions and Cities shown include:
 - **OTTOMAN EMPIRE**: Zutphen, Prague, Vienna, Hungary, Venice, Rome, Constantinople, Syria, Egypt, Tripoli, Cairo.
 - **PERSIAN EMPIRE**: Derbend, Tabriz, Gilan, Kazvin, Isfahan, Yazd, Shiraz, Kerman.
 - **UZBEK KINGDOM**: Khivao, Tashkent, Samarkand, Bokhara, Amu (Oxus), Kabul.
 - **Other Regions**: Ferghana, R. Syr, R. Danube, R. Tigris, R. Euphrates, R. Nile, Persian G., Mediterranean Sea, Black Sea, Caspian Sea.

Disputed areas are marked with arrows and the text "DISPUTED WITH TURKS" and "DISPUTED WITH UZBEKS".

many years in Persia, and lived to do England good service after his exile from France in 1681. It is from Chardin that we learn to re-people the capital of the Safavids; to pick our way through the teeming markets, to watch the half splendid, half tawdry pageant with which a Shah was crowned or an ambassador received; to meet the poor blinded princes of the blood royal, and piece together the unspeakable cruelties of the palace harem.

But the modern visitor to Isfahan may prefer to forget Shah Abbas as the slayer of Turks and murderer of his own sons. Monsieur André Godard, who as Director of the Iranian Archaeological Service, has done much good work to conserve ancient monuments here and elsewhere in Persia, quotes ironically from the writings of one literary visitor: "*Isfahan n'a pu être conçu et exécuté que par des rois et des architectes qui passaient leurs jours et leurs nuits à entendre raconter de merveilleux contes de fées.*" The gardens and tile-clad buildings even in their present state suggest a kind of fairyland.

Everything centres on the Maidan, the great rectangular open space running some 550 yards north and south. It was and is bordered by tall plane-trees, but the little stone-banked canals running beneath them are no more. Gone too is the great mast on which was fixed the target for archers galloping past at full speed. But the marble pillars that marked the goals for polo are still there; and so are the houses surrounding the square: arched open-fronted shops on the ground floor, open-arched balconies above, whence the householders and their friends could look down on the lively scene below. In the 17th century the walls were covered with a light trellis supporting thousands of tiny lamps, which were lit at night on festive occasions.

The rows of houses round the Maidan are punctuated at intervals by nobler buildings; at the north end, by the great gateway to the market, on the east by the Sheikh Lutfullah Mosque, on the west by the Ala Kapi, the *Sublime Porte* leading through to the Palace gardens with their pavilions and quarters for the Royal household. Above the arched entrance of the Ala Kapi is a huge balcony chamber whose roof is supported on three rows of tall carved wooden columns. This airy hall, open on three sides, was at once a grand-stand from which the Shah could observe all that went on in the Maidan below, and an audience chamber where he could conduct business, or feast and drink to excess the famous wine of Shiraz. Early

travellers have described the azure and gold ceiling of the Ala Kapi balcony; the plaster niches of the back wall, filled with paintings of Persian beauties and European courtiers, wine-cup or bottle in hand; and the jasper fountain in the floor, whose jets were pumped to this high level by oxen invisibly toiling on the ground beneath. Of the feasting here we may judge by the accounts of Thomas Herbert and others; dishes piled high with rice variously coloured were a Persian speciality; "the Ganimed Boys in vests of cloth of gold, rich bespangled Turbants, and embroidered sandals, curled hairs dangling about their shoulders, with rolling eyes, and vermillion cheeks, carried in their hands Flagons of best metal; and went up and down, proffering the delight of Bacchus to such as were disposed to taste it". Meanwhile an Armenian would be making a great noise with an organ, or there would be singers accompanied by the lute, and perhaps a harpist. Then would enter the dancing girls, forming a circle and rhythmically swaying in postures that drove Herbert into ecstasies of appreciative indignation.

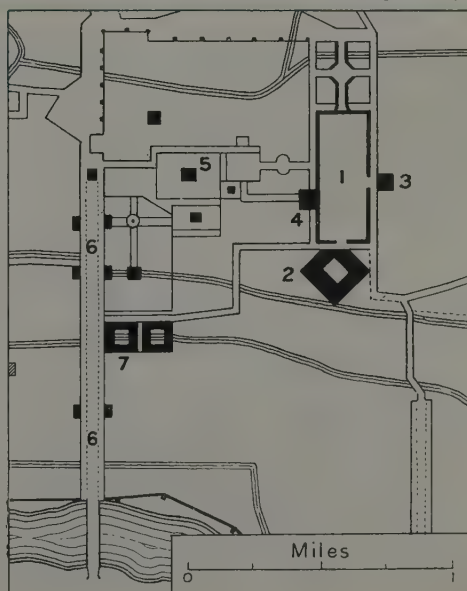
But, apart from his backsliding in the matter of Shiraz wine and so forth, Shah Abbas was a pious Muslim; at the south end of the Maidan, where he could see it from his balcony, he erected an enormous mosque. The Masjid-i-Shah, begun in 1612, was built too quickly on insecure foundations (as M. Godard regretfully informs us); and Abbas was with difficulty persuaded not to plunder for it the marble panelling from the older Masjid-i-Djami, which for centuries had served as a cathedral for the citizens of Isfahan. Yet in the perfection of its planning and proportions it is perhaps the climax of Persian architecture. Only the colour-glazed tile-work with which most of the surface is covered gives a hint that the art of Safavi times was over-ripe and about to decline. For on the entrance-gate, on the dome, and in the inscriptions the older and more laborious technique of tile-mosaic was used, with all the brilliance of its thick transparent glazes. Each member of the design had to be sawn from a slab of clay already glazed and fired, and then fitted together in a plaster bed. But the process was slow and costly; and Shah Abbas was in a hurry. The interior of the mosque was therefore lined with square tiles on which the designs were painted, in glazes thinner and more dim in colour. It is as though a cloud had begun to draw over the sky at the very moment when the sun of Persia was at its brightest.



All colour reproductions from Ektachrome film

(Above) The small mosque of Sheikh Lutfullah, fronting the Maidan, is aesthetically the most perfect building in Isfahan. It was built between 1600 and 1618 as a private chapel for Shah Abbas. The cupola is covered with tile-mosaic patterns set in glazed brick; mosaic and painted tiles decorate the façade and interior.

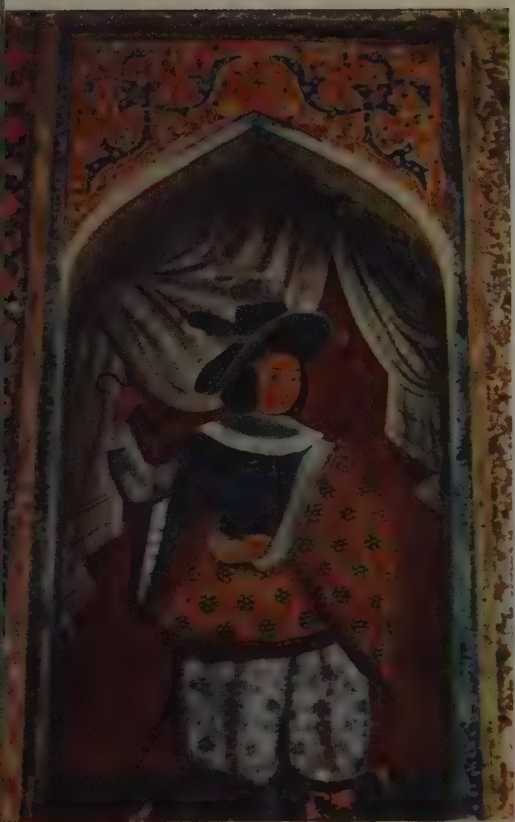
(Right) Central Isfahan, showing (1) the Maidan, with (2) the Masjid-i-Shah at its south end, (3) the Masjid-i-Shah Lutfullah on the east side and (4) the Ala Kapi gate leading to the palace gardens on the west. Here, among various palaces and pavilions, the Chehel Sotun Palace (5) is situated. The Chahar Bagh Avenue (6) runs south to the bridge over the Zenderud, past (7) the Madrasa Mader-i-Shah



A. J. Thornton



The Ala Kapi, or Sublime Porte, is a pavilion on the west side of the Maidan, Isfahan. Through the lower arch access is afforded to the palace gardens. An upper floor is occupied by a great balcony-chamber supported on wooden columns and open to the air on three sides. Here Shah Abbas often received ambassadors, watching the procession advancing towards him across the Maidan. There would follow other spectacles: wrestling, polo, wild-beast fights and shooting by mounted archers at a target set on a high mast. Even on ordinary days the market in the Maidan would offer a diverting scene



(Left) *Fresco in the Chehel Sutun Palace, perhaps by Shah Abbas' court painter, "John the Dutchman", or by one of his pupils. Sir Thomas Herbert, who visited Persia in 1627, relates that: "The King indeed took great delight and esteemed it an addition of lustre to his Court to behold exotiques in their own Countrey habit; so that the greater the variety appeared, he would say the more was his Court and Countrey honoured at home, and in estimation abroad"*

(Right) *The Ala Kapi contained a multitude of small chambers, richly decorated with stucco, painting and mirrors—so many that Pietro della Valle was told that there were no less than five hundred doors. In this alcove—restored in recent times—decoration takes the form of bottle-shaped apertures cut through a plaster screen. Shah Abbas used the pavilion as a favourite place of residence, and within its walls was carried on much business of state*



(Below) *The Masjid-i-Shah, Isfahan, seen from the Ala Kapi balcony. (Opposite) Its dome and two minarets. This great mosque, begun by Shah Abbas I in 1612, was completed after his death. An arched portal flanked by minarets opens from the south end of the Maidan into a court; from here the axis of the sanctuary lies at an angle south-west in the direction of Mecca. Three other deep iwans, or arched halls, open off the court; the tilework lining one of them is seen in the foreground of the photograph opposite.*

Tile-mosaic had been a peculiar glory of the architecture created by that Islamic civilization which once reached from Samarkand in Central Asia to Seville and Granada in Southern Spain. To understand its origin one must remember that the Islamic peoples loved strong colour, but were accustomed to build in that rather drab material, burnt brick. The first steps to brighten the drabness were taken in the second half of the 13th century in north-west Persia. Geometrical patterns of colour-glazed bricks were inserted among the rest.

From this it was a logical development to multiply the colours and vary the shapes of the inset pieces till they formed Arabic inscriptions or friezes of stylized plants. Paradoxically enough, the development took place in the interior decoration of stone buildings in Asia Minor, where Persian craftsmen, driven from their homes by the Mongol invasions under Jenghis Khan early in the 13th century, found employment under Turkish rulers. At the end of the century building in Persia began again on a considerable scale: tile-mosaic was increasingly used on outer walls; and the Blue Mosque at Tabriz (completed in 1465) became celebrated as the most perfect work of this kind. But there are equally good examples both at Yezd and at Isfahan itself.

The principle of tile-mosaic resembles that of a jig-saw puzzle, whose component parts are small pieces of tile sawn to shape from earthenware slabs already fired and covered with thick coloured glazes. Each piece was laid in place with the coloured side downwards, on





a full-size cartoon of the whole design drawn on boards or a plaster bed. A thick layer of liquid plaster was then poured on, settling in the slight bevels between the tiles; this plaster backing was strengthened by an inset framework of canes laid crossways. When the plaster had set, the whole work could be lifted as a single panel and fixed in position on the wall of a building. For curved surfaces, such as domes or vaults, the panels would have to be made over a plaster mould with the right curve.

The brilliance of tile-mosaic was due partly to the thick glazes, partly to the sharp outlines of the patterns, which were emphasized by the narrow white line of plaster that appeared between adjacent tiles. Almost as early as tile-mosaic itself a cheaper substitute was found in square tiles painted in coloured glazes. Its effect, at Isfahan and elsewhere, was less brilliant; the colours were thinner, and to prevent them melting into each other in the firing, the design was outlined in a greasy black pigment.



The façade of the Masjid-i-Shah, Isfahan. Brick, the normal building-material in Persia, was given durability and splendour by glazes, the brilliant colours of which would be unbearable in a climate less clear and sunlit than that of the Iranian plateau. Glazed slabs sawn into interlocking patterns form the tile-mosaic with which the dome is covered



"Stalactite" decoration in an iwān of the Masjid-i-Shah. This complicated system of small angular arches in tiers was popular in every Islamic country as a means of bridging over the intersection of architectural planes meeting at an angle. It is found in all materials, this example being in brick and tilework painted with coloured glazes



The Madrasa Mader-i-Shah, Isfahan, was built early in the 18th century by Shah Sultan Husain's mother as a kind of residential theological college. The open-fronted rooms for students, each with its delicate al-cove picked out in fine dark tracery, are in two storeys round a courtyard. Beyond is a small inner court

Betterment—by Hand and Brain

by PROFESSOR E. G. R. TAYLOR

Continuing the survey of present-day geographical realities which she began in our December 1948 number, Dr Taylor shows that, if we will use our brains, 'betterment' is as much a possibility as 'worsement' in relation to the pressure of population upon food supply: thereby discouraging equally the pessimism of some recent writers and the optimism of several preceding generations

"ONE more mouth to fill!" Victorian *paterfamilias* would murmur the words anxiously as his wife whispered news of a ninth or tenth little stranger presently to join the nursery brood. "But remember, my love," she would gently reply, "with every mouth Providence always sends a pair of hands as well". And also a brain, she could have added, and a heart, and a character to be moulded into the Victorian shape of self-help and self-respect. It is time that we stopped moaning about the twenty million annual newcomers to the human family and began to rejoice instead. Just such gloomy prognostics were expressed by Malthus a century and a half ago. "Too many people, too little food." And the setting of hungry mouths against productive acres goes back further still. In the 17th century a clever young land-surveyor and draughtsman from Lichfield, who had worked his way up into the Herald's College, began to study the Hearth Tax returns. Calculating the rate of human increase by reference back to Noah's Flood, he reckoned that by the 20th century there would be no fewer than nine million people in England and Wales, while by the time this figure rose to twenty-two millions (which would not be until A.D. 3500, he said) further increase would have to stop, since no more mouths could be filled! For Gregory King had no notion of the coming Industrial Revolution or of the peopling of the Western Hemisphere any more than Malthus had any notion of what modern science could effect. Neither can we ourselves see into the future. But we can fix our attention, not on the mouths, but on the twenty million extra pairs of hands and the twenty million fresh brains that come to working maturity every year. Are we making the best of them?

A startling phrase was used of Sir Walter Raleigh by an Elizabethan Secretary of State. Not of the young, handsome Sir Walter whose gallantry won the Queen's favour, but of the middle-aged disappointed man who

yet found energy to settle colonies (and plant new-fangled potatoes) on his vast Irish estates, to seek an Empire for Gloriana in America, to reorganize Cornish tin-mining—and to write poetry. "He can toil terribly", said Sir Robert Cecil. And if of each one of us the same were true, half the world's problems would be solved over-night. Of course there are many people who already toil terribly. Perhaps there are some of them behind the food drive in Queensland, Australia. For it was announced in the New Year that not just the promised 20,000 acres, but 30,000 acres of virgin black soil were being seeded down to coarse grain designed for feeding hordes of pigs. Let us hope that the pig-breeders have toiled too, and have kept in step.

This enterprise reminds us of the opening up of the Middle West of North America, hardly a century ago. The pioneers who first ploughed up the sod of the 'wilderness' sowed it with maize, and then turned pigs in onto the ripened crop to 'hog it down'. This was because of lack of transport. The maize would need to be carried to market, but the fattened pigs marched east on their own four feet, just as did the Welsh cattle destined for London larders in Tudor days. Pigs mature quickly, and a good thick rasher for breakfast puts heart into a man. But—have a sufficient number of the best brains actually been detailed to consider this matter of feeding? Consider what thousands of brilliant engineers have bent their minds to the problem of designing machines and engines of maximum efficiency, able to get the very highest ratio of power relative to the fuel supplied! Has anything like the same volume of research and effort been made available to discover the most efficient and economical chain of transformations by which sunshine and moisture, earth and air, fed in at one end, come out as a big, hot, satisfying Sunday dinner at the other?

This groundnut scheme, for example. So far the news has not been too good. All sorts



Picture Post Library

Surrounded by her eight bonny girls and three fine boys, the family Bible at her feet, Mme Ferdinand de Lesseps looks handsome, capable and happy, a fit helpmate to the famous canal-builder who has been termed "one of the most powerful embodiments of the creative genius of the 19th century"

of 'unexpected' checks and hindrances have cropped up. That there would be enormous difficulties—of climate, of soil, of labour, of lack of transport—every geographer knew. But supposing instead of a hasty *ad hoc* reconnaissance a quiet programme of survey and research had been in progress during all the thirty-odd years of the Mandate? And supposing that the research station already established by the Germans had not been closed down for years? There would perhaps not have been such a story of the 'unexpected'. The English habit, however, is to choose its governing and administering and Treasury personnel from those who have more appreciation of the subtleties of Aristotle and Epictetus than of the delicately poised balance of relationships between climate, soil and living things which make an agricultural region a going concern. It is not easy to teach them that in the realm of nature, as well as in their familiar field of politics, clumsy interference may spell disaster. It is from the far-away times of ancient Greece that the notion has come down to us that to be a scientist or a technician is somehow just

a shade ungentlemanly. And although it has been necessary to introduce a few such men into the higher Civil Service, they have had a lower status, lower pay, and fewer opportunities to rise than the men whose education has been wholly in the humanities.

However that may be, the groundnut scheme, like the Sabi-Lundi scheme in Southern Rhodesia, and the cattle and sorghum schemes in Australia, represents one of the opening moves of the attack on the only really large areas which hold out hopes of providing for the world deficiency in meat and fats—the tropical savannahs. The savannahs, which lie on the margins of the equatorial forests, are expanses of relatively open country clothed with grasses (sometimes as tall as a man) and scattered trees, varied by bush and thicket. The obvious way of utilizing them is as cattle runs, and the native peoples living on the African savannahs have usually reckoned wealth in terms of head of cattle. The Portuguese and Spaniards introduced cattle into the corresponding regions, the *campos* and *llanos* of South America, as did the British at a later date into the tropical

grasslands of Australia. But since in all these areas a dry season lasting from six to nine months alternates with the rainy season, not only is water supply a very serious problem but fodder too becomes periodically so scanty that the animals fall into poor condition. Insect pests, including locusts and the dreaded tsetse fly in Africa, and over-stocking of the pastures (again especially in Africa) are other dangers that have to be dealt with, so that the view is generally held that whenever possible cropping should be developed side by side with stock-raising. But crops require fertilizers, and where cattle roam at large the precious manure is lost. And indeed we have almost no experience of the best methods of tropical agriculture, for plantations of bush and tree crops, such as tea, rubber and coffee, are quite a different matter, while the European farmers of the 'White Highlands' of Kenya and of the well-settled parts of Southern Rhodesia have much less baffling problems to face than are found in the lower savannahs. At such great elevations, 4000 feet and more, disease, debility and drought are less intractable.

Something can no doubt be learned by studying native methods where they exist, but

these are primitive in the extreme, and no mere flying visits by teams of scientists can take the place of long and patient observation and experiment. We have only to recall that although our own country has been farmed for over two thousand years, there is still room for discussion among experts as to the best methods of cultivation, and still room for scientists to be busy on farmers' problems at half a dozen research stations up and down the country. In a single English county there may be half a dozen or so different types of soil, each requiring special treatment and special crop rotations. What then is likely to be the case over the millions of square miles of tropical savannah? In our own country, too, we do not have to provide for several months of drought as an annual occurrence. We do not have to deal with rains so heavy and violent as to tear away the soil and break up made roads. We have nearly a century of meteorological information to fall back upon, besides a well-organized forecasting system, so that we know within limits what to expect. How scanty by comparison is our knowledge of the tropics, even in the sphere of weather and climate.

Perhaps more than elsewhere timber trees



Huxley from Paul Popper



Elspeth Huxley from Paul Popper

Will Chief Karethii (old style) or Chief Ignatio (new style) foster betterment? Perhaps Ignatio better understands the new Colonial Service; but is not Karethii closer to his people's hearts?

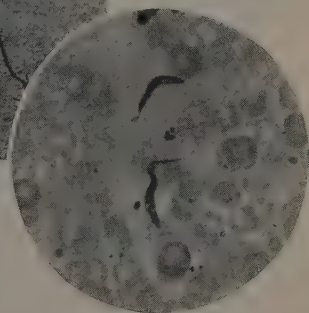
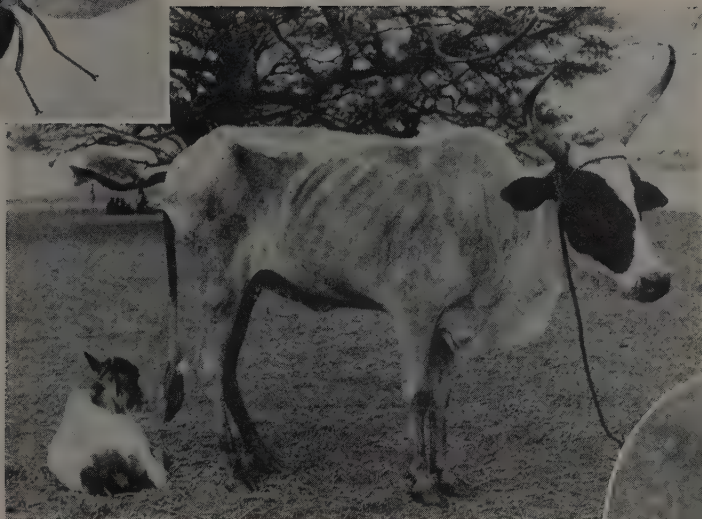
are in danger in the tropical grasslands, for they are scarce. Owing however to the fact that an air-stream yields most rain during its passage over mountains or high watersheds, such areas in the savannah regions carry precious belts and patches of evergreen forests. "The geographer", wrote Clement Gillman, a man who practically single-handed made a reconnaissance map of the whole vegetation cover of Tanganyika, "the geographer should never tire of pointing out, with all the scientific emphasis at his command, the important inter-relations between the small still-forested uplands and the vast foot-plains. The plains can remain, or can again become, the home of a stable peasantry only if the forests are protected against the rapacious inroads of the mountain dwellers and if their rehabilitation is energetically furthered without delay in the many areas where deterioration is advanced." Mr Gillman, who was accidentally killed in 1946 in the course of his work, was actually a railroad surveyor. But as he travelled about the country he filled his notebooks with observations on vegetation and population. His studies and maps have now been published—in New York! They show the huge extent of practically uninhabited regions in the interior of Tanganyika, and in these it was possible to start the groundnut scheme without interfering with African native villages, fields and pastures. For in East Africa we now consider ourselves Trustees for the welfare of the Africans.

Such a scheme must however interfere with their way of life, even if eventually for their good. For where there is next to no population labourers must be brought in for the development work and for the actual cultivation when it begins. And they must be brought from a distance, for the Masai who are the nearer African race of the Tanganyika tableland have no interest in agriculture and indeed despise it. In this they resemble the Dinkas and Shilluks, the cattle-keeping peoples of the great undeveloped savannahs of the Upper Nile Basin. This attitude is a very old one, for Herodotus tells a story of some envoys sent far up the Nile from Egypt who discovered tribes living entirely on milk and meat. When they explained how in Egypt the chief food was wheat which sprang out of the ground, the black-skinned men enquired how long the Egyptians lived, and commented, "No wonder their lives are so much shorter than ours, since they eat dirt". The Masai, when in the prime of life, not only eat milk and meat, but drink fresh blood drawn from the veins of

their oxen. Fortunately the beasts are no more disturbed by this practice than is a blood-donor by his visit to the hospital. Nevertheless a way of life centred entirely upon cattle now holds grave dangers, not only for the Masai but for other East Africans. Under European rules, the population rapidly increases in numbers, and so they increase their herds in proportion. But so long as the fly-free grazing grounds are limited, and while the pasture remains unimproved, the inevitable consequence is over-stocking. This means over-grazing, so that the grasses and herbs cannot renew themselves, with the result that not only do the cattle grow stunted but the bared top-soil is carried away by erosion and the dreadful process of gullying may begin, creating what the Americans call "bad lands", of no further use. The natural thick grass cover normally protects the soil, and many people are wondering whether the great plough-up scheme for groundnuts (or sun-flowers) does not hold some of the same elements of danger as over-grazing.

To force people like the Masai to become tillers of the soil, or even to insist on the diminution of native herds, would be to destroy African pride in their way of life, and undermine their self-respect. But what is the alternative? It is education. Education, there is good reason to believe, and changing external circumstances, can quickly create a new social outlook. We of the older generation can remember the time, for example, not so long ago, when an English gentleman shuddered at the idea of 'soiling his hands with trade'. But such a phrase would be laughed at today, for the rise in the general standard of education has made us much less class-conscious. Nevertheless, while it is easy to talk of education as a main instrument of betterment—for that is certainly what it is—we must not forget that there is a very long way to travel. Out of the twenty million fresh brains that might be set each year upon problems of betterment, by far the greater number have received no education. They are young Asian and young African illiterates. Even in the Dominions of India and Pakistan fewer than one-fifth of the population can read and write, and of course a very much smaller proportion attain to anything that can be termed higher education.

Suppose we turn again to the example of Tanganyika. Here the African population is not very much larger than that of Scotland, although the country itself is ten times as big. But whereas some £30,000,000 is being spent yearly on educating the young people of Scotland, less than one-hundredth part of



(1) British Museum (Natural History). (2) and (3) I.C.I.

The dreaded tsetse fly (larger than life) and its victim, an African cow. Her blood is infected with wriggling trypanosomes, seen (right) under a microscope. British scientists have discovered antrycide, which will immunize cattle; but care for grazing lands must accompany care for beasts

that sum is being spent on educating about the same number of young Africans. This is no reflection upon our Colonial Administration, for quite apart from lack of funds and teachers, the impulse to education must spring from within a community. The Russians have shown how a nation fired with enthusiasm can 'liquidate illiteracy' (to use a very ugly phrase) among tens of millions of its members in a generation. The result there was the performance of tremendous tasks of betterment in the fields of science and technology, and although the unkindest thing one Russian can call another is "uncultured", a group of children asked what they want to be will call out "Engineers!" It is not enthusiasm, however, but inertia, which appears to the European to characterize the native peoples of Africa, the West Indies and other tropical lands. Some would hastily call it laziness. But it has been clearly proved that an ill-balanced diet, combined with debilitating diseases—malaria, hook-worm, sleeping-sickness—is a potent cause of such inertia. European science and sanitation can offer release from these handicaps, and provided the remedial measures are freely adopted and such a release secured, there should be

a mounting access of human energy and drive to count upon. But would the tens of thousands of young people thus aroused and eager, aspire like the young Russians to become engineers, or want to be village teachers, or scientific workers or first-rate farmers?

The answer is likely to be "No!" For the education offered by the West to colonial and backward peoples has so far been overwhelmingly an education in the humanities, an education which tacitly assumes the distinction made by the ancient Greeks between superior people who think and who command on the one hand, and inferior people who do and who obey on the other. It is in fact an education originally designed for an *élite*, a governing class, and consequently one deliberately excluding any utilitarian elements. Its complete divorce from the local traditions and social standards of the non-Western peoples to whom it is handed on almost intact leads to the creation among them of a small intelligentsia who are separated by a tremendous intellectual and emotional gulf from the masses of their own people. A former Colonial Secretary has recently set out the general aims of a sound



Black Star

Betterment in action! An enlightened forestry aims at perpetuating timber stands and yet providing timber. The trees marked for cutting (frequently by means of a spray-gun) are carefully selected so as to leave both space and protection for younger growths. Machinery is designed to eliminate waste and damage in felling, while mechanized transport allows felling to take place even in distant parts of the forest so that the cut is evenly spread. The greedy lumberman wipes out completely the sections nearest to mill or market; but an even greedier destroyer is fire, which leaves behind it a scene of unequalled desolation, for the very seedlings are not spared. Fire-spotting towers and fire-fighting equipment can minimize, though they cannot prevent, such ruinous loss

Black Star



colonial policy, aims applicable too to other States where backward peoples are found side by side with Europeans. Those aims, said Colonel Oliver Stanley, should be firstly, to guide the colonial peoples towards self-government (or to participation in government in a mixed racial community); secondly, to develop the economic resources of the country in the people's interests; and thirdly, to raise the standard of living to the highest level which the country's economy could support. He emphasized, however, and rightly, that successful progress depended entirely upon the right relationship of speed being maintained in advancing these three separate aims. Now it is clear that the second is the most fundamental, and hence should receive the most attention in the earlier stages of development. A raised level of food production is necessary to provide a raised standard of living, and furnish a surplus for supporting an administrative class. But hitherto, education has been directed towards the first aim, guidance towards self-government. It is scientific and technical education alone that can advance the second and third aims—that can in fact achieve material betterment; and so it is essential that science and technics should be given the prestige and the status among colonial peoples that has hitherto attached only to the humanities. A high official in a backward Himalayan State who had been educated in Calcutta University and then returned to his own people was heard to lament that he could draw the map of Africa in all its details, but he had learned nothing of agricultural science which alone could raise his country from abject poverty. He had discovered for himself new values in education and indeed those new values are obtaining recognition more and more widely.

Many leading educationists, of course, now recognize the need to combine science and the humanities, and agree that science is not something divorced from life, the exclusive affair of the specialist. It is, indeed, everybody's business, just as religion, art and literature are everybody's business. Like all these it is an enrichment and enhancement of life: lacking science a man is less than he might be. But beginnings of new educational experiments must often be sought far afield. In McMaster University, Hamilton, Ontario, a particular aspect of scientific thought has been seized upon. Students are offered a course of instruction in *Conservation*, and find that it embraces geography, geology, zoology, botany and agriculture, which, while separate disciplines, must be used in close combination to solve the problems of betterment

and to prevent the dissipation of fundamental resources. Students following such a course would find congenial work if they secured employment with a concern like Canadian International Paper, a corporation which by scientific management ensures that its 21,000 square miles of forest shall be a fully productive and yet not a wasting asset. The waster is the small individual owner, who sees in his own wood-lot just so much ready cash. Because their life-span so far exceeds that of a man, trees should always be vested in corporations or communities, which also have long lives and can take long views. Such is the case in Scandinavia where the group owners of a patch of forest, uniting to preserve the trees from fire, pests and diseases, and "taking only the increase", find themselves with fuel and building material in perpetuity.

More than one great scientist has told us that what is required now is not so much new scientific discoveries as a climate of thought in which existing scientific knowledge is widely appreciated and generally applied. Such a climate of thought must be developed at a high level in governmental circles, as well as at a general level among the masses of the workers of all creeds and colours. A hopeful pointer was given us by Sir Henry Tizard at Brighton last summer: "Until recently" (he said) "there have been far too few careers open to young biologists outside the field of the medical sciences. There has been nothing corresponding to the Colonial Service which has offered to young administrators a life of adventure nicely seasoned with economic security. All members of the British Association will therefore welcome the intention of the Government to inaugurate a Colonial Scientific Service, and will hope that the conditions of service will be such as to attract young men of the highest quality."

Science can teach us how to make two blades of grass grow where one grew before. Even more important, science can teach us how to accomplish that feat and yet conserve the goodness of the soil, keeping it in good heart for posterity. But betterment rests upon a general understanding of both these lessons of science and upon putting them into practice. Worsement can easily follow if we make use of the first alone. The soil is the basic asset of the human race from which all life springs. If we have learned to cherish and employ it as a precious heritage for all time we can give a welcome, if a sober one, to the twenty million newcomers of 1949. Provided, of course, that we make it our pride that like Sir Walter Raleigh, we too "can toil terribly".

Cagliari

by KELLOW CHESNEY

THE position of Sardinia, glanced at on a large-scale map, is deceptive. The nearest mainland is in fact not Europe but Africa. This has had its effect both on the plant and animal life of the island and on the history of the peoples who have made it their home.

Though the island is today an integral part of Italy the best general description one may give it is perhaps simply "Mediterranean"; and it is remarkable that in spite of an endless series of invasions, lasting over a period of more than three thousand years, the physical attributes of the inhabitants, so far as can be judged from their bones, appear not to have changed at all. The living Sardinian, and the remote proto-Sard whose unexplained monuments still remain scattered over the countryside, both show alike the typical characteristics of Mediterranean man.

To this generality there is one outstanding exception: the city of Cagliari. Cagliari is a port of more than 120,000 inhabitants, the capital of the island and the principal gateway to the interior. It is an old city; there was probably a settlement or trading factory in the vicinity before the Romans had thrown off their Etruscan masters; and from the beginning it must have been a meeting-place of alien cultures which had settled on the threshold of Sardinia, drawn by the hopes of profitable intercourse with the hinterland.

At one time this trade was exceedingly profitable: easily worked surface deposits of valuable metals—such as were present during the same period in Ireland and Cornwall—drew the attention of traders first from Phoenicia and then from the great Phoenician colony at Carthage.

It is said that the Carthaginians were so jealous of their Sardinian commerce that they kept their activities there a secret. Thus if a Carthaginian ship sailing between the African coast and the Greek cities of South Italy were forced by bad weather to turn and run for shelter to some Sardinian anchorage, it was the general practice to ensure against a leakage of information by throwing overboard any foreign travellers who might be making the passage. However, the presence in various Punic settlements of ceramics, weapons, ornaments and other objects of divers, particularly Greek, origins seems to indicate a far wider degree of intercourse with the rest of the world than this malicious tit-bit of 2000-year-

old gossip might lead one to believe.

The next masters of the island, ruling with an iron hand, were the Romans. At this time agricultural exports, particularly grain to help feed the seething populace of Rome, became of paramount importance and Cagliari, situated not only near the entry to the mountain passes but also on a fine sheltered bay at the end of the broad fertile valley of the Campidano, grew to be an important place of shipment.

In those days the city flourished on the strip of low-lying country near the sea where live today most of the inhabitants of the modern town. Up above, on a ridge of soft, easily-worked rock, was the citadel into which during the Dark Ages the population retreated. And here, crouched above its bastions and behind its great gate-towers, the city remained till a thousand years later the rule of Spain, backed by Spanish sea-power and Spanish cannon, made defence if not unnecessary at any rate inadvisable.

Cagliari is a dusty, windy city. In the narrow streets of the old town there is shelter, and except for the shrill voices of children or the harsh wrangling of women in the arched entry of some grotto-like shop, quiet: but on the bastions and along the wide seafront, where cranes now lift the same rural products that slaves humped up the gang-planks for Vandals and Byzantines, the strong wind blows for days on end.

This wind is not of constant direction and though sometimes, lifting the surface particles from the soft stone, it blows little storms of dust about the streets, yet it generally serves to keep the city cool; and although we are here far south of Rome the summers are seldom uncomfortable save for an occasional fortnight in August or September. Moreover it has another beneficent function; among the low marshy lagoons which neighbour the city there are many great salt-pans, where the sea-water, controlled by a system of dykes and sluices, evaporates rapidly under the strong sun and persistent wind.

Unfortunately for the Cagliaritanos the price of salt today is low; the great loads that can still be seen, any time one strolls down the long quays of the harbour, disappearing into the holds of ships bound for places as far apart as Rio and Yokohama, are little more than ballast.



All photographs by W. Suschütz

Part of the lower town and harbour of Cagliari, Sardinia, as seen from the citadel above. The Roman city occupied the strip of land by the sea which again today is the centre of business and traffic



Natural rock and ancient masonry merge indistinguishably in the massive walls of the eastern bastion of Cagliari's citadel, or old town



The citadel's narrow streets betray few signs of wealth; the "high houses of the old nobility have become warrens of tiny habitations"



Piles of salt draining in the pans. A low coastline, constant winds and hot sun combine to make Cagliari a great salt-producing centre



Most of Sardinia's trade (once extremely valuable) with the outside world has, since earliest times, passed through Cagliari's harbour



The arcade running along the harbour front of Cagliari. The morning and evening promenade is as important to Sardinians as to most Latin peoples: and many of the city's affairs are settled at the little tables under the arches



Though old and blind, she can still enjoy the sunshine while sitting, lost in meditation, beneath the great medieval gate into the citadel. Sardinians are generally stoical and show fatalistic resignation in the face of poverty



"Torre Dell'Elefante", one of two large towers, built in 1307 by the Pisans, which stand "high above the closely packed houses, turning their blank battlemented fronts to the outside world"

The years when a great trade passed out through Cagliari are gone; they may come again but at present there are few signs of real wealth about the narrow streets. In the lower town there are shops with goods in the windows and bright with neon lights in the evenings; and in the heat of the day one may still stroll under the shadow of the long covered promenade and drink iced coffee at little tables set beneath the arches. But in the old town the great high houses of the old nobility have become warrens of tiny habitations. The archways and courtyards are cluttered with adventitious masonry, and through the doorway of some little chamber, where below the level of the street, without windows, there lives an entire family, one may see above the broken bedstead and the dim flickering lamp before the print of the Madonna, a fragment of groining from some splendid arcade long sunk into the mass of superimposed structures.

Indeed the whole citadel has become such an intermingled mass of buildings and rock, of masonry and gallery, that no one may say for certain where artefact comes to an end and the natural unworked stone begins. In the tops of some of the houses, high above the narrow alleys, there are flats where live the descendants of families whose palace was once the building they still inhabit. Below, in the cliff-sides of the citadel and in the remains of the rock-hewn amphitheatre, there live cave-dwellers, whose habitation was once a beast's den or the sepulchre of a provincial Roman family.

The Sardinians are accustomed to poverty and meet it, as they do most suffering, with a hard fatalist resignation. Perhaps the Arabs who once dominated the island have here contributed their quota to the local character. However, though not lacking in resignation, the Cagliaritanos are, as has been said, citizens of a not purely Sardinian city; and this is as true of their mentality as of their cranial indices.

Something more typically Italian, a certain lightness of spirit, has come to modify a little the rather sombre fortitude, the Spanishness, of the typical islander. This is no doubt in part due to the conditions of life in a large city and it would be misleading to put too much weight upon it: nevertheless the almost ceremonious reserve, the overwhelming hospitality and the tendency to occasional acts of ferocious violence, which distinguish to a greater or less degree the inhabitants of the remoter parts of the island, are here noticeably absent.

In the winter during the time of the Carni-

val this lighter spirit of the Cagliaritanos is exhibited in a curious form. The young men of the city, particularly students at the university, build themselves little cars, of the kind favoured by street urchins everywhere, out of the bottom of a soap box or a few boards and four small wheels. Their nights are then employed in racing with them down the streets which drop steeply from the old city to the port.

Sometimes these machines are made more elaborately, the wheels moving on ball-bearings and the steering controlled by a carefully designed tiller; but crude or elaborate they have all one quality in common: they are extremely noisy, for the little metal wheels rolling down the paved streets close between the high buildings inevitably set up a deafening racket. Long after the evening promenade beloved by all Latin peoples is over, when the streets begin to empty, the racers start to prepare themselves and from then till three or four in the morning one may study form by hearing through the window the rattling and shouting in the streets below.

This activity is sanctioned by tradition, and so is not to be regarded as a public nuisance. But where did it come from? Somewhat similar contests occur at places on the Italian mainland, but nowhere on the same scale. Is it a practice introduced by volatile Neapolitans within the last few hundred years? Or some anthropologists' prize plum, the relic of a proto-Sard ritual brought from Asia Minor in 1600 B.C.?

Like so many questions, earnest or frivolous, about Sardinia the answer is—*nobody knows*. For this island with its rare and curious plants and animals and its still unknown mineral resources, although it lies in that part of the world best known and charted, whose past is more fully recorded than that of any other geographical area, still presents the inquirer with a series of question marks. And Cagliari is among them.

Perhaps it is best understood as a sort of frontier town; the threshold of a people who struggling for their independence and against exploitation have resisted change, so that we find, piled up as it were on the doorstep, the remnants of a dozen cultures left there by a householder who would have as little to do with them as possible.

So it may be that rather than the modern docks where skins and cheese and cork go out, and almost all the needs of life come in, the truest emblems of the town remain the huge Pisan watch-towers, high above the closely packed houses, turning their blank battlemented fronts to the outside world.

The Warwickshire Avon. I

by J. ALLAN CASH, F.I.B.P., F.R.P.S.



All photographs by the author

At Lilbourne by the Avon there are several grassy mounds—all that remains of the once important castle; like other strongholds in this area, it fell into decay after having ceased to be useful

The article below and a second part which will follow shortly are taken from a book on the Avon written and illustrated by Mr Cash, which is to be published by Chapman & Hall later this year

FOLLOWING a river from source to mouth is a fascinating project and will most certainly lead to a few surprises. The Warwickshire Avon for instance is one of the most peaceful rivers in England, yet it begins and ends on battlefields, and passes beside others where, in days gone by, bloody encounters took place which often settled the destiny of England for many a long day.

Many of us know the Avon at Stratford and at Warwick, Evesham and Tewkesbury. But how many people know where the Avon rises? I could find no one in Stratford who knew, so I set off across country, following the map, to find out for myself. This took me to the quiet Northamptonshire village of Naseby, quite off the beaten track. I stopped two schoolboys and asked them if they knew where the Avon started. To my surprise they

said yes, it was over a brick wall in the distance, and they offered to come with me to show me the spot.

We duly climbed over the wall into somebody's private garden and there, in a hollow, roughly lined with stones, was a large cast-iron cone nearly five feet high. On it, in bold letters and figures, were the words: "Source of the Avon 1822". At the top of the cone was a double receptacle with a spout on the edge. At one time, apparently, a spring ran up a pipe in the centre of the cone and bubbled out at the top, but there was not a drop of water there when I saw it.

I went across to the Fitzgerald Arms and spoke to the landlord. Neither he nor anyone in the bar ever remembered the cone running with water. But the landlord took me down into his cellar and showed me a little spring

bubbling up beneath a flagstone in the floor. The water ran immediately into the ground beneath the floor, and my guide told me that it came to light again in the fields a few hundred yards away. This, then, was the present source of the Avon.

There is a story that some long time ago the source of this river was considered so important a spot that the spring was led up the inside of a plaster swan in a little artificial pool, so that the water poured forth from the beak of the bird. This was supposed to be in the grounds of an inn, doubtless the same Fitzgerald Arms, but all signs of it have long since disappeared.

The Avon has hardly started on its course as a tiny stream wandering through the fields when it is led, along with other similar streams, into a large reservoir. This is a source of water for the Grand Junction Canal, under which the infant river passes a few miles farther down. Below this point again, the Avon forms a large reservoir which is, indeed, the Rugby water supply. The Avon misses the modern railway and industrial town of Rugby by a bare mile, but it is the water of this famous river which is used by the town as its main supply.

Barely three miles from the source, at Welford, there occurs the first of the many mills on the Avon. Some of these go back a long way, a few even being mentioned in Domesday Book. Before the advent of steam, and of electric power, the water-mills of the countryside were of great importance, and there can have been few rivers in England with more mills on their courses than the Avon. Perhaps the most famous of them all was Abel Fletcher's Mill at Tewkesbury.

I have spoken of the battles which occurred on the banks of the Avon. It was at Naseby that Cromwell finally disposed of the forces of King Charles I and slew five thousand of his men. After the Battle of Naseby Charles was "like a hunted partridge, flitting from one castle to another". Evesham was where Simon de Montfort

lost his life and where such a slaughter of his men took place that this battle has been called the Murder of Evesham. Then it was at Tewkesbury the red rose of Lancaster was finally trampled in the mud, in 1471, and again a great and terrible slaughter of men took place in what became known as the Bloody Meadow. And these are only the most outstanding conflicts which occurred beside this peaceful Midland river.

Close to Rugby the Avon is joined by the little River Swift which comes from beyond Lutterworth, a few miles to the north. It was here that Wyclif, the great preacher, was minister. From the pulpit still standing in the church he proclaimed in no uncertain terms against the intercession of saints and confession to priests, part of the movement which later led to the Reformation. Forty years

Ashow church overlooks a section of the Avon that is nearly filled with rushes and various water plants. The little village of Ashow is to be found at the end of a narrow country lane south of the large and very lovely park of Stoneleigh





Stoneleigh Abbey was built in the Italian Renaissance style by the third Lord Leigh in 1726 after he had travelled extensively throughout Europe. The original Abbey (little of which remains today) was founded in 1154 by Henry II and continued for four centuries as a Cistercian monastery until suppressed by Henry VIII. The Avon is here broadened out into a wide stream by a weir



The Avon sweeps gently around the rocky promontory upon which stands the great house at Guy's Cliff. Within a cave, which may still be seen below it, Guy, Earl of Warwick, according to legend, lived for years as a hermit, unrecognized by his wife, after returning home from the Holy Land. Close by is Guy's Cliff mill, which is one of the oldest and most attractive along the river



(Above) Warwick Castle, on a wooded hill by the Avon, has served as a place of residence for centuries, never having been allowed to fall into ruin, as have many English castles. (Below) Warwick's West Gate, surmounted by a chapel, was, like the castle, one of the few parts of the old town to survive the great fire of 1694



The weir at Hampton Lucy (just below Charlecote), which provides a head of water for the local mill, is characteristic of several weirs found along the course of the Avon; these are responsible for the river showing itself much wider and deeper in a number of places than it would be without them



after his death a raging mob disinterred his bones, burnt them in fierce anger and threw the ashes into the little river.

Below Rugby the Avon flows peacefully through green meadows, crossed occasionally by roads and country lanes, sometimes by means of old stone bridges, at other places by shallow fords. At Bretford the Roman road Foss Way crosses the stream, which by now has assumed quite a substantial size. This was probably a well-used track long before the Romans came to Britain. At Stoneleigh the Avon enters a wide and beautiful park and is joined by the River Sowe coming past Coventry only three miles to the north. There is not a sign in this lovely wooded estate that a great industrial city lies so close.

Stoneleigh Abbey was founded in 1154 by Henry II, at the request of two pious monks, Clement and Hervey, who sought a quiet retreat far from the noisy world of their day. For four centuries the Cistercian monastery flourished there until Henry VIII put an end to it, along with so many other church pro-

perties. In 1726 the third Lord Leigh, after extensive travels abroad, had a magnificent edifice in Italian Renaissance style erected at Stoneleigh. Little remained of the original monastery in any case, but this new structure was a far departure from any abbey, although it still bears the name. It is full of art treasures of all kinds, and can now be visited by the public. The Avon wanders through the park, coming close to the great building, then almost hides itself beneath a low, densely wooded hill. A weir below the house creates a gentle splash and murmur of falling water.

A few miles farther downstream we come to the scene of a most touching tragedy. Leland, the great historian of Henry VIII's reign, thus describes Guy's Cliff, where it took place:

"An abode of pleasure, a place meet for the Muses, with its natural cavities, its shady woods, its clear and crystal streams, its flowering meadows, and caves overgrown with moss, whilst a gentle river murmurs



Hampton Lucy mill; its mellowed brick and aged woodwork blend pleasantly with its rustic setting by the Avon. There are numerous mills along the river, many of them very old—some even being mentioned in Domesday Book



Charlecote Manor, one of the 'stately homes' on the banks of the Avon, has been the seat of the Lucy family for centuries. "The park itself, with its beautiful trees, its herd of deer and broad grasslands, must be still pretty much as Shakespeare knew it. This is the place where he is supposed to have poached deer and been caught by the Lucy of the day and thrown into prison"

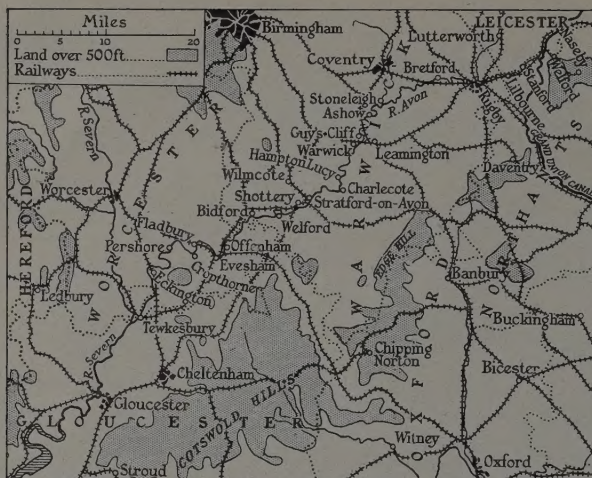
among the rocks, creating a solitude and quiet most loved by the Muses."

This description would not be entirely unfitting today. The house stands high on a cliff above the gently flowing Avon; its foundations are hewn out of the solid rock and there are innumerable excavations around the courtyard which undoubtedly served as out-houses in days gone by. Below the house, in the face of the cliff, is a large, man-made cave to which it is supposed that Guy, Earl of Warwick, slayer of the Demon Cow, retired as a hermit after his return from the Holy Land, a century or more before the Norman Conquest. His wife did not recognize him, although she gave him alms each day, until the day of his death when he revealed his identity to her. It is said that he died in her arms. It is a delightful old legend,

but hardly bears investigation, and is, indeed, a story which is quite common in other countries. But let it be, it fits the site of Guy's Cliff to perfection.

We now come close to Leamington and Warwick, the former a comparatively new town built on the reputation of its healing waters, the latter one of the fine old fortified towns of England. The Avon passes right through Warwick, but Leamington is on a tributary—the Leam. Warwick Castle was described by Sir Walter Scott as "the fairest monument of ancient and chivalrous splendour which yet remains uninjured by time".

It is a fact that Warwick Castle has never been a ruin, like so many of our old castles, but has continually been a place of residence. It is today the seat of the Warwick family. The grounds and many of the buildings are



A. J. Thornton

open to the public and here one can really visualize something of what England in the Middle Ages must have been like. The best view of the castle is obtained from the high bridge over the Avon which carries the main road to Banbury and London. The oldest part of the castle is Caesar's Tower which was built a few years after the Norman Conquest. Other parts have been added at various times, restorations have taken place, especially after a disastrous fire in 1871, but always in exactly the right style, so that the castle has always retained its original character.

Warwick itself was a most important town in English history, but suffered from a terrible fire in 1694 which almost entirely wiped it out. Many of the buildings erected subsequently are still to be seen today, giving the town a pleasant old-world atmosphere. Both the old city gates are to be seen—they were not destroyed in the fire—and are in a good state of repair. Each has a chapel above it, and as you drive through the town from west to east you pass beside one and through the other. The Church of Saint Mary, with its lofty tower and magnificent Beauchamp Chapel, is situated on the highest point in the town. It is well worth the long climb up to the top of the tower for the tremendous sweeps of country which can be seen in every direction from this vantage-point.

The Avon at Warwick is a broad and placid stream, but would not be so if it were not for a weir. In fact, these weirs at regular intervals all the way down the river frequently broaden the stream out into a much wider river than it would otherwise be. They greatly enhance its appearance at such places as Warwick, Charlecote, Stratford and

Evesham. The weirs were built to produce a head of water to operate the many mills, but the Avon was also navigable to points above Stratford, until the building of the Great Western Railway put it out of business as a means of communication. You will still find some of the old locks, now rotting and mouldering away beside the weirs.

The next place of special interest below Warwick is Charlecote, with its fine mansion set on the banks of the broadened Avon in a beautiful park. For centuries the home of the Lucy family, who still live there, it is now National Trust property. As at Stoneleigh, the house is full of art treasures gathered from many lands. The park itself, with its beautiful trees, its herd of deer and broad grasslands, must be still pretty much as Shakespeare knew it. This is the place where he is supposed to have poached deer and been caught by the Lucy of the day and thrown into prison. The story goes that, upon his release from prison, he penned a doggerel verse on the Charlecote gatehouse, ridiculing Sir Thomas Lucy. It was this worthy gentleman's ire which compelled the young poet to disappear for a time. In fact, he went to London, broke into the theatre world as an actor and playwright, and eventually returned to his native Stratford as a famous man. By then Sir Thomas Lucy was dead, but the new occupant of Charlecote is said to have entertained him in a fitting manner, the old deer-stealing sore having been healed.

This again is a legend which it is difficult to authenticate, but is one of the tales of the poet Shakespeare which will never die. It is pleasant to think of him, as an adventurous youth, crawling into the park with one or two companions in the dead of night and knocking off a deer. It is rather difficult to understand how they would dispose of so large an animal without being seen, but we must not inquire too closely.

Shakespeare is believed to be referring to this incident in the second half of *Henry IV*, and also in *The Merry Wives of Windsor*, where Justice Shallow is thought to be Sir Thomas Lucy. To quote a few lines:

Falstaff: Now, Master Shallow, you will complain of me to the king?

Shallow: Knight, you have beaten my men, killed my deer, and broke open my lodge.